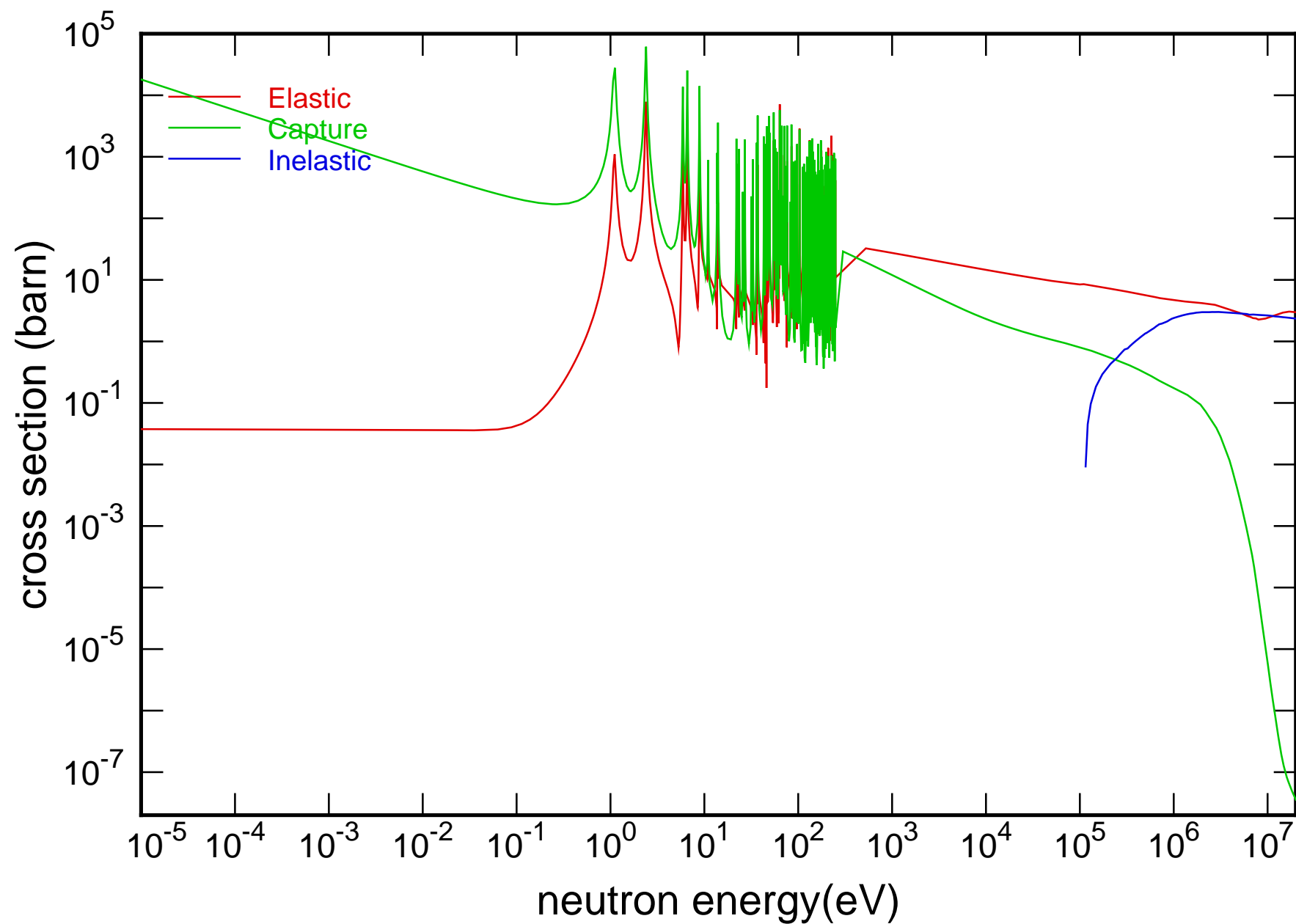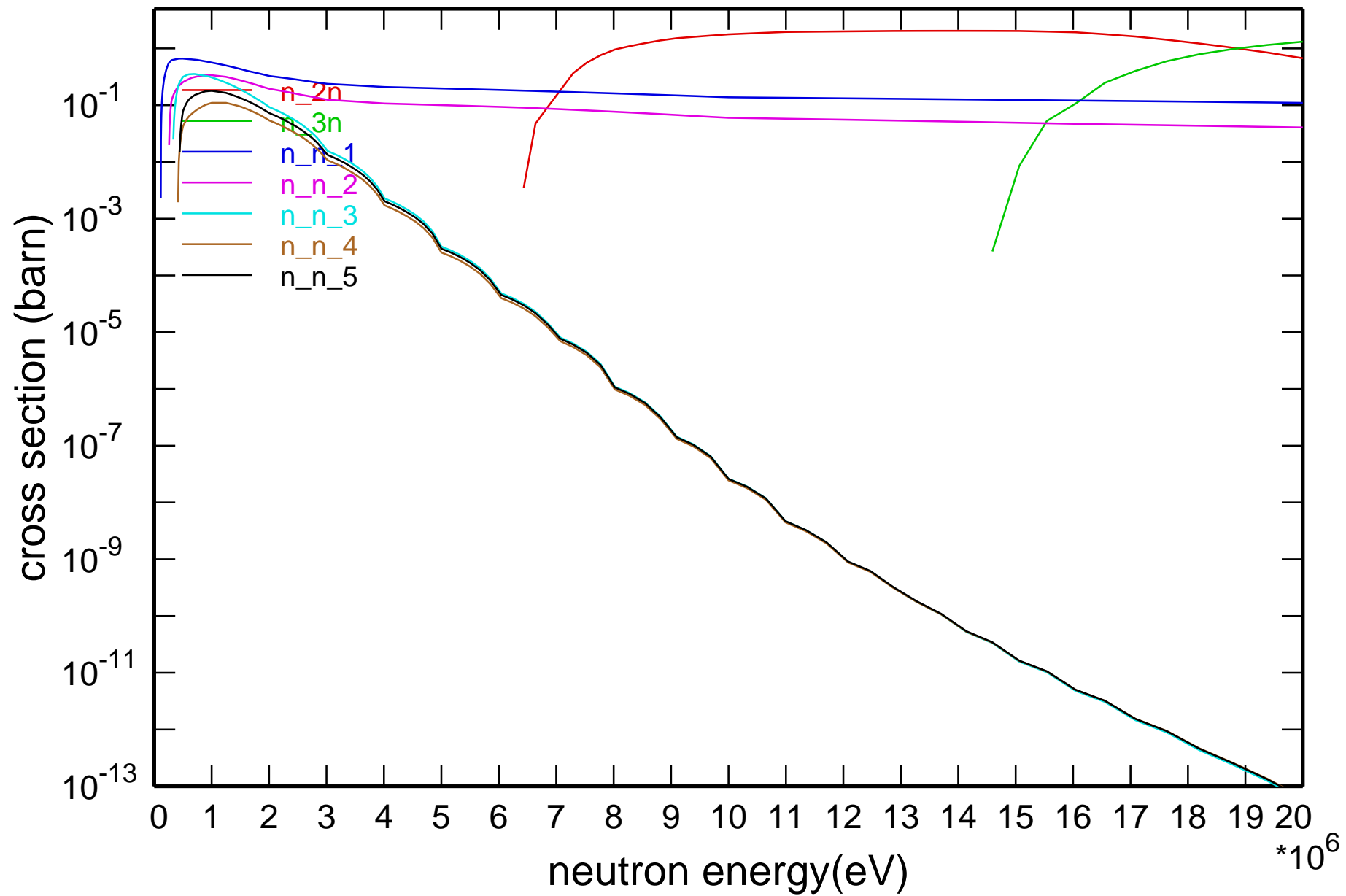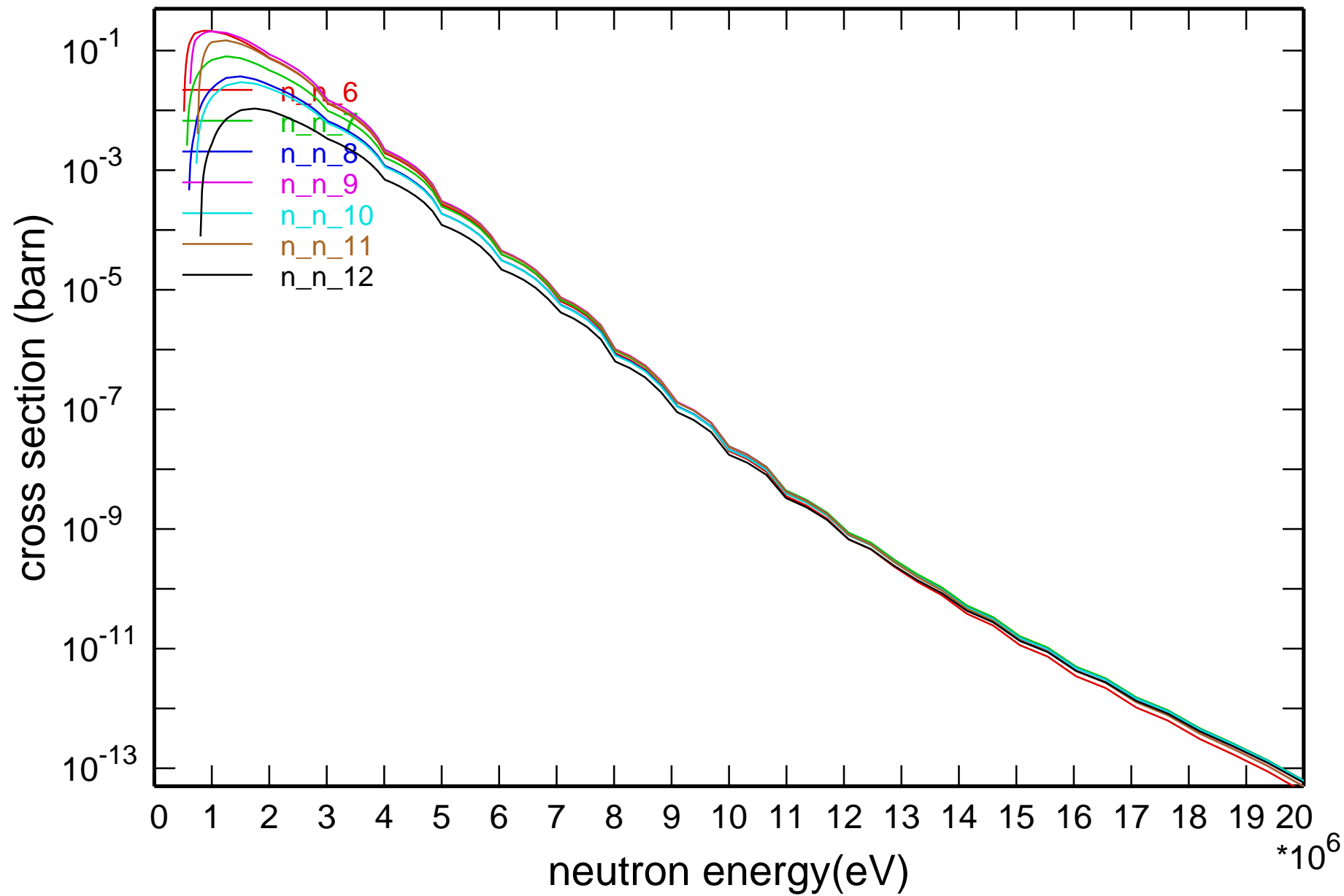Main Cross Sections
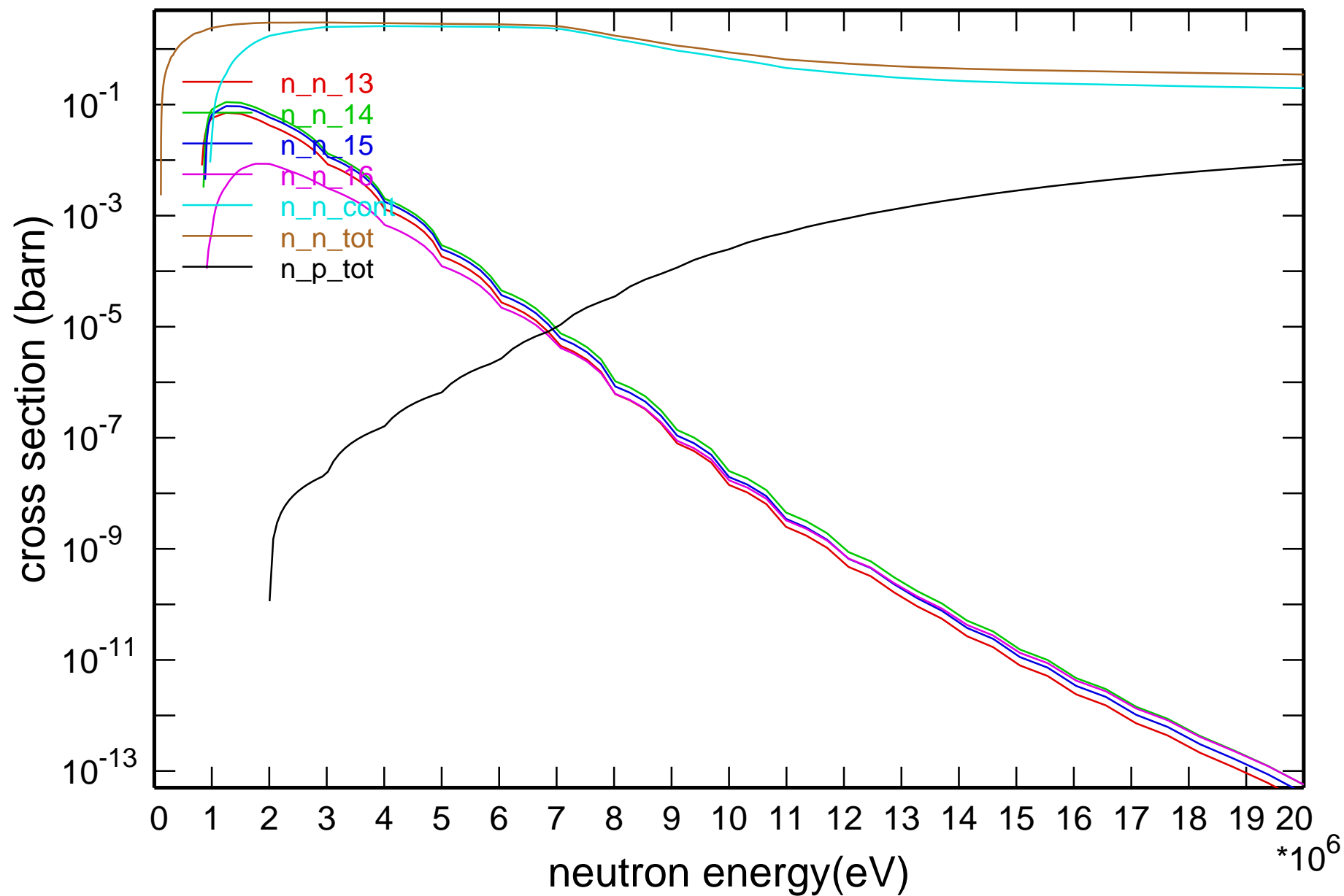
Cross Section
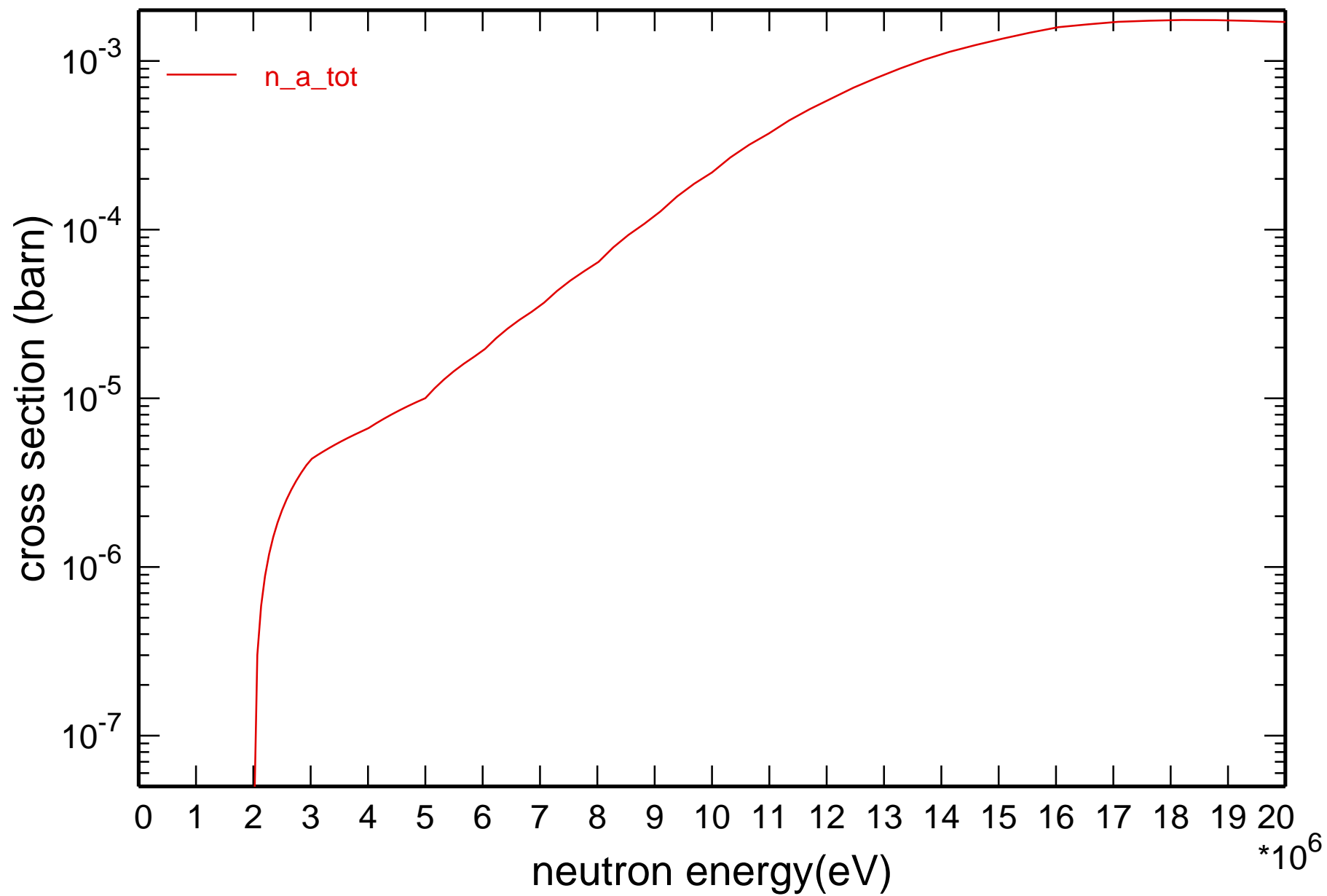
Cross Section

Cross Section

Cross Section

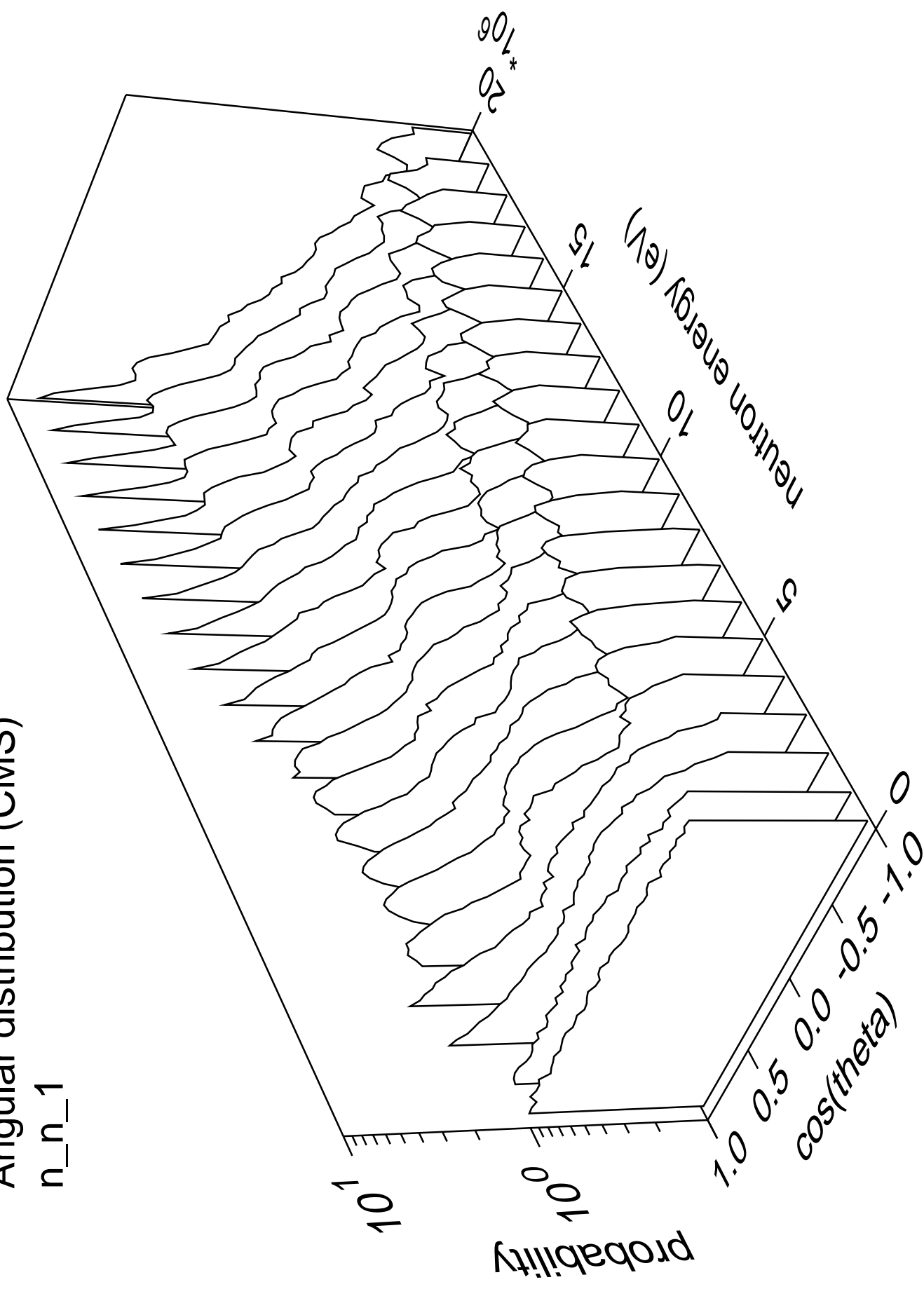Angular distribution (CMS)
Elastic
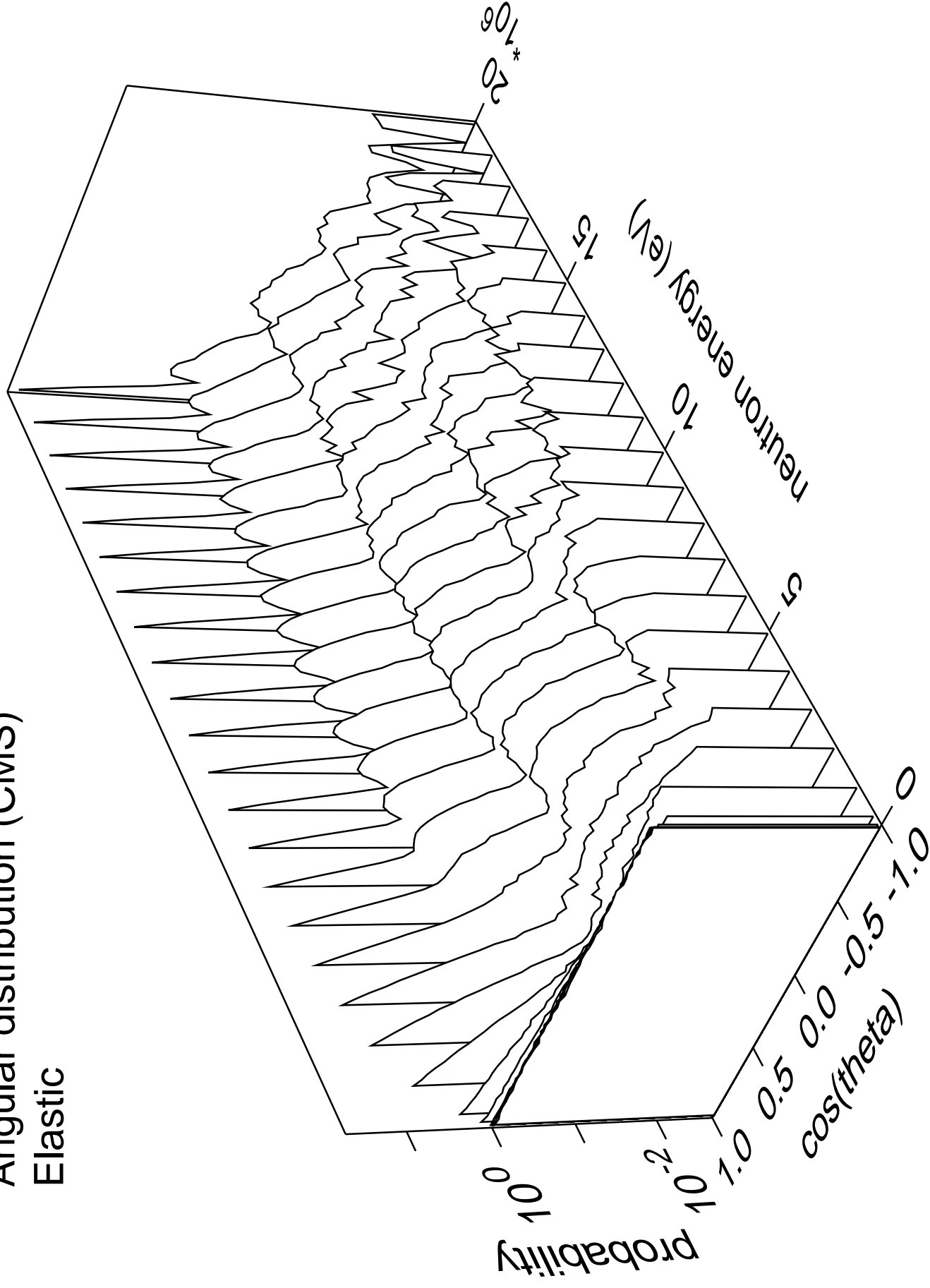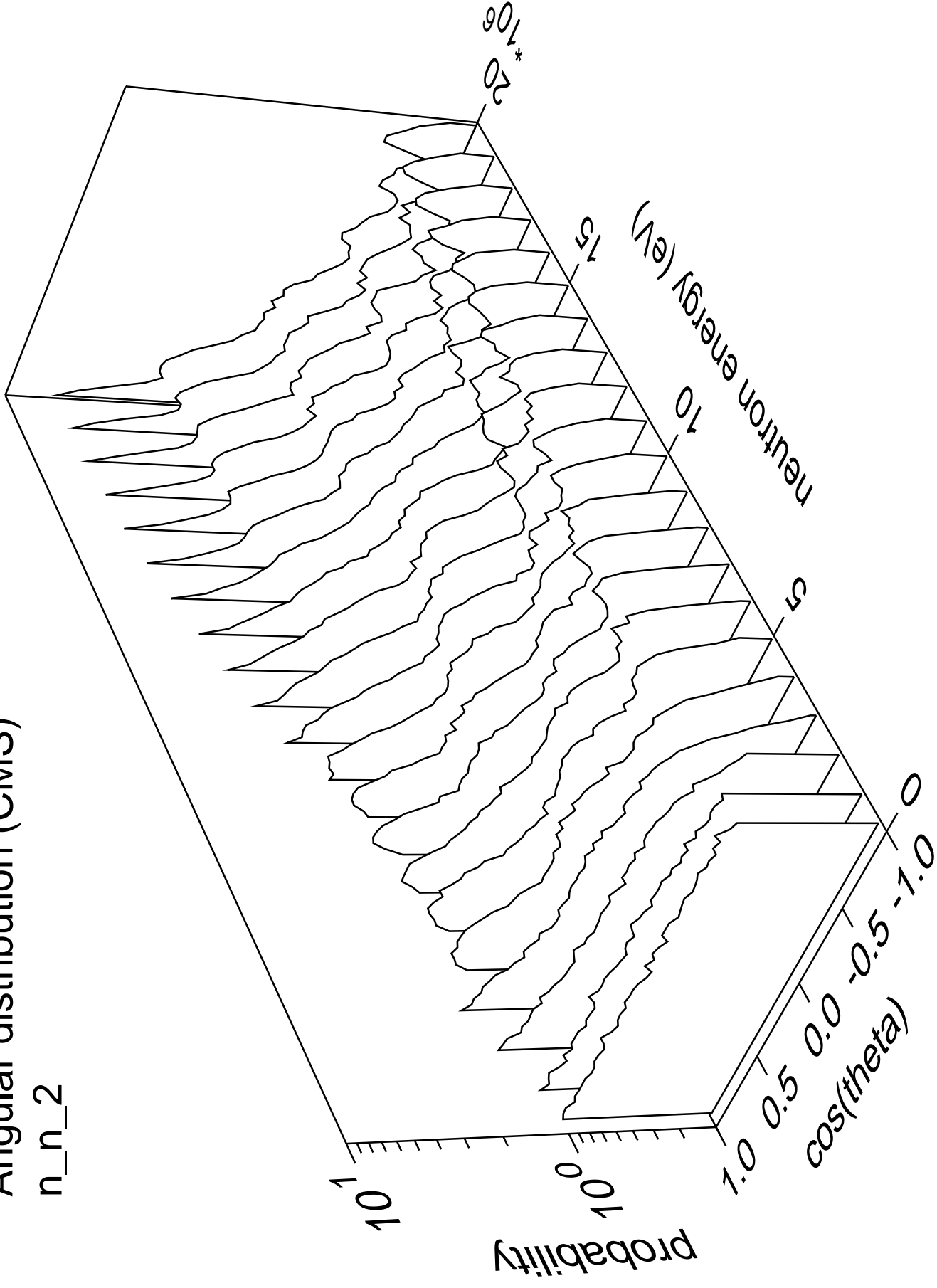
probability

neutron energy (eV)

cos(theta)

Angular distribution (CMS)
n_n_1

neutron energy (eV)

cos(theta)

probability

20 *10⁶

15

10

5

0

1.0 0.5 0.0 -0.5 -1.0

10¹

10⁰

Angular distribution (CMS)
n_n_2

neutron energy (eV)

cos(theta)

probability

Angular distribution (CMS)
n_n_3

probability

cos(theta)

neutron energy (eV)

Angular distribution (CMS)
n_n_4

probability

cos(theta)

neutron energy (eV)

*10^6

Angular distribution (CMS)
n_n_5

probability

cos(theta)

neutron energy (eV)

Angular distribution (CMS)
n_n_6

probability

cos(theta)

neutron energy (eV)

$*10^6$

Angular distribution (CMS)
n_n_7

probability

10⁰

neutron energy (eV)

cos(theta)

1.0 0.5 0.0 -0.5 -1.0

0   5   10   15   20 *10⁶

Angular distribution (CMS)
n_n_8

probability

cos(theta)

neutron energy (eV)
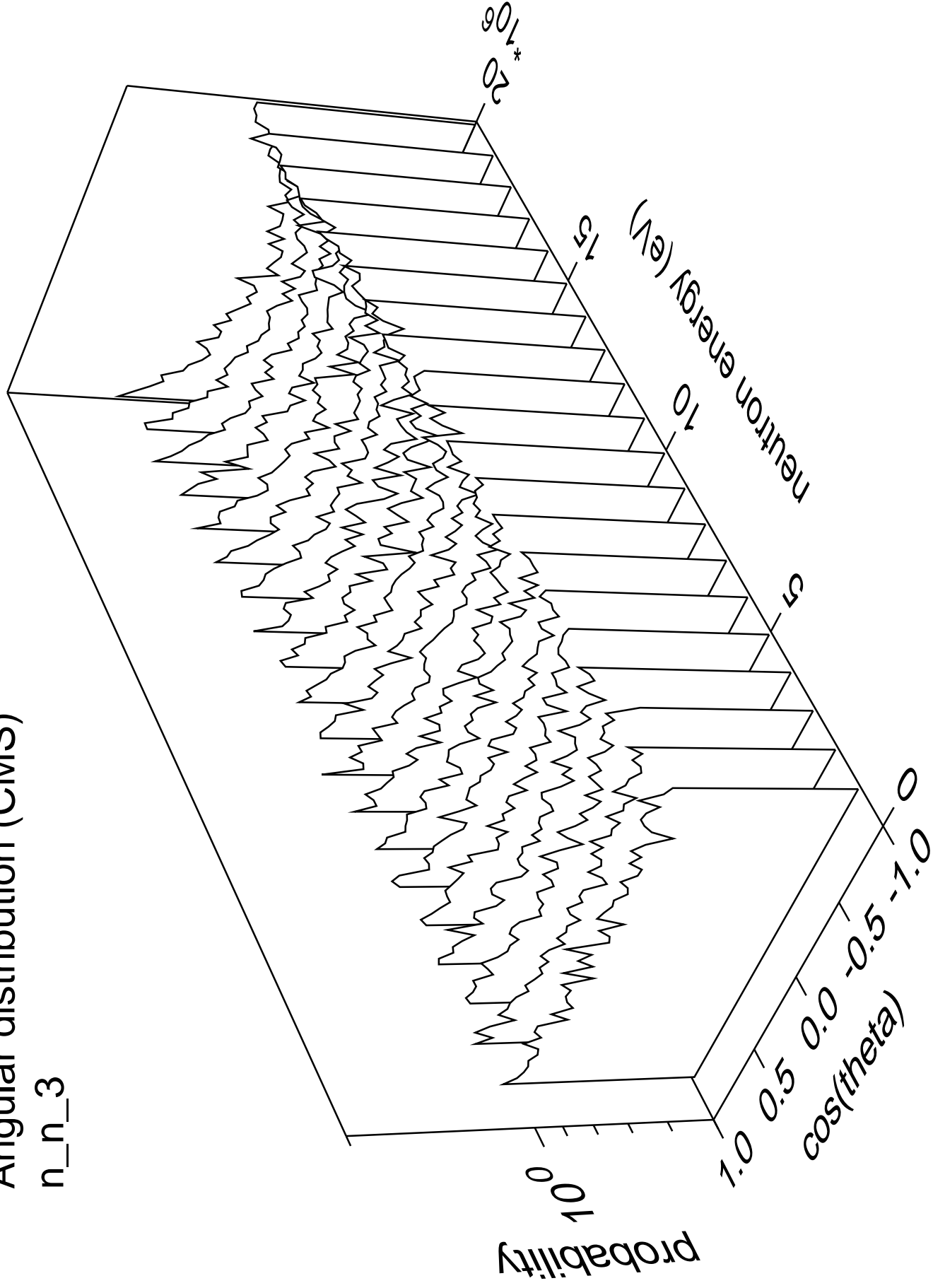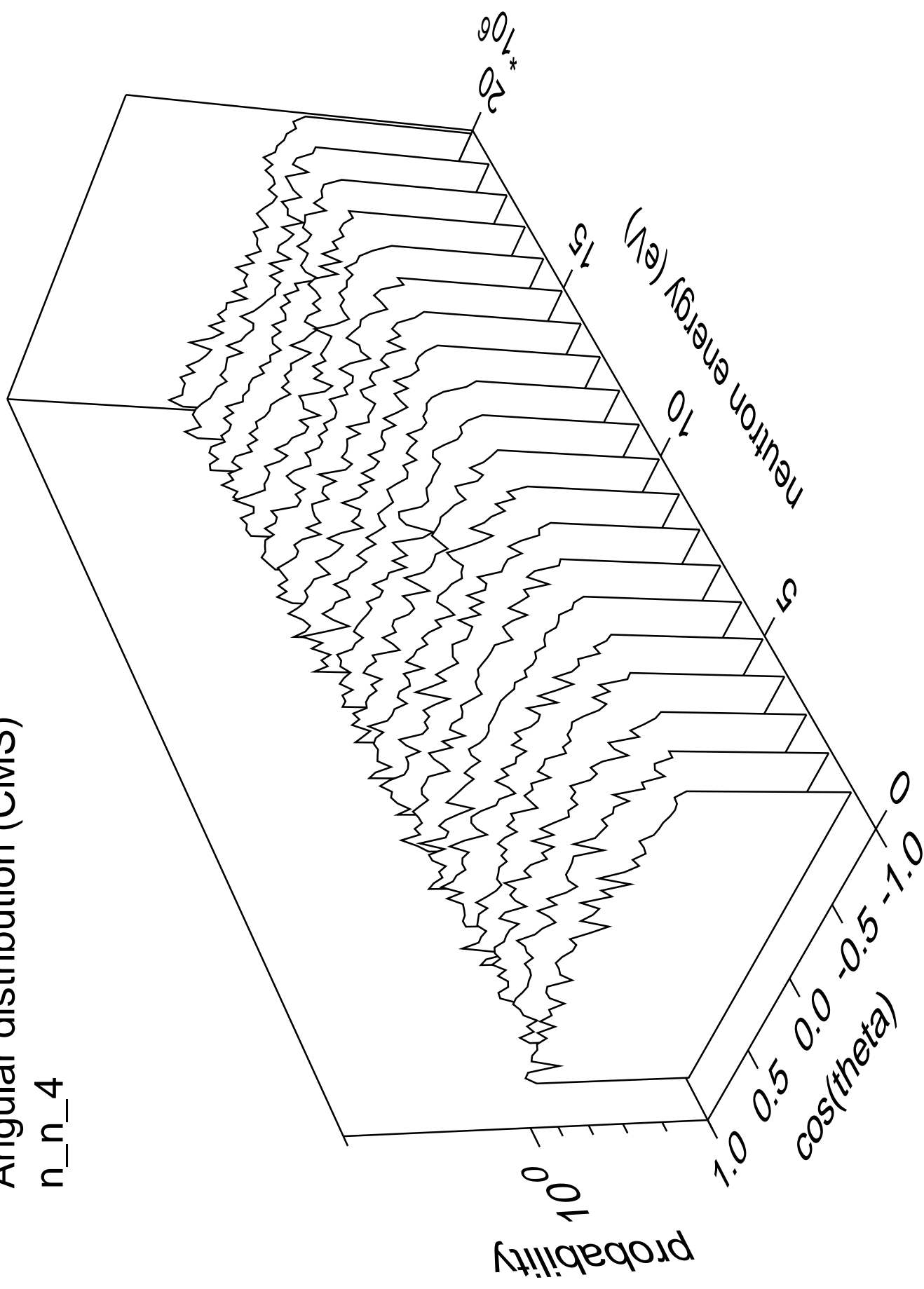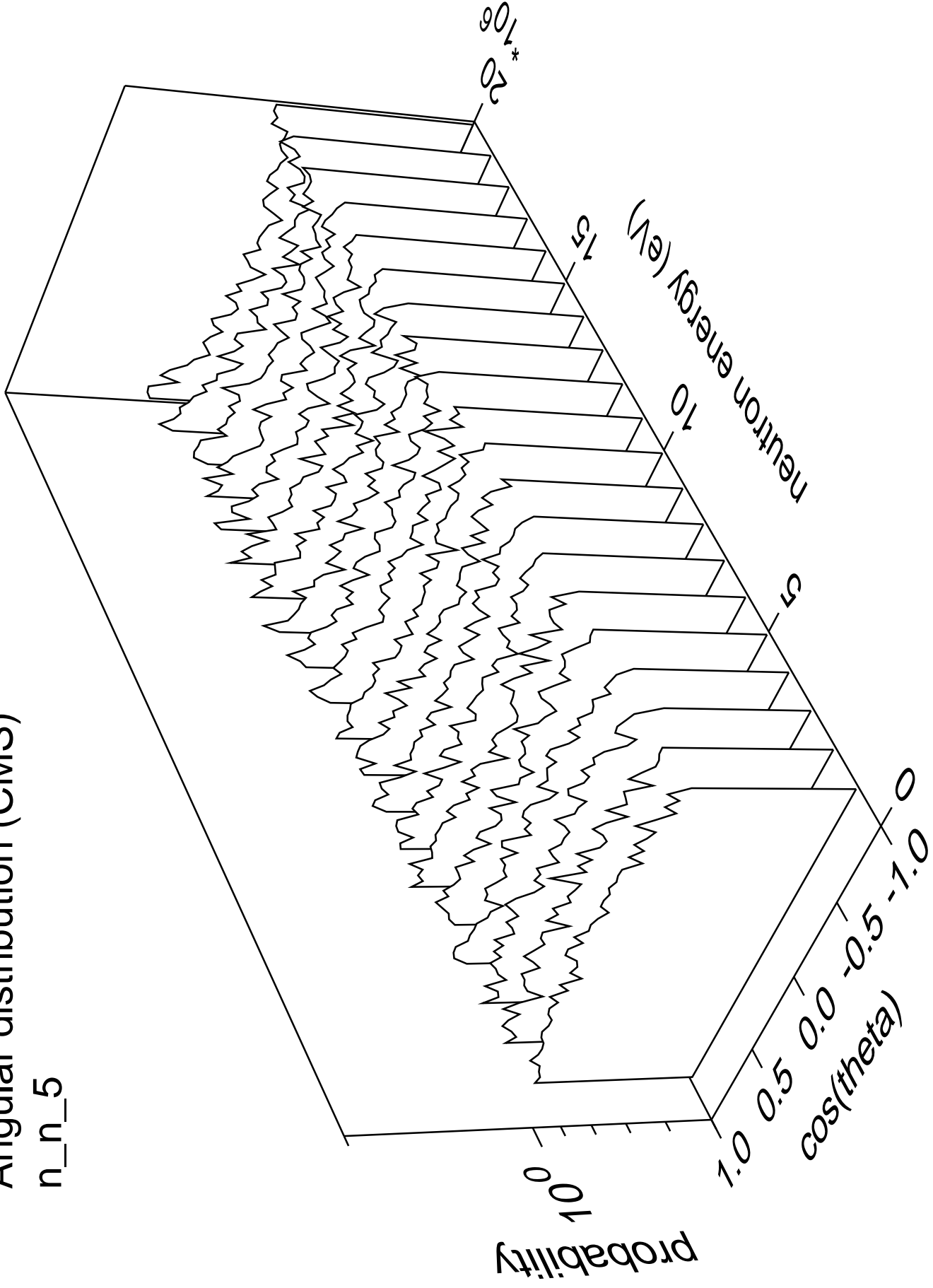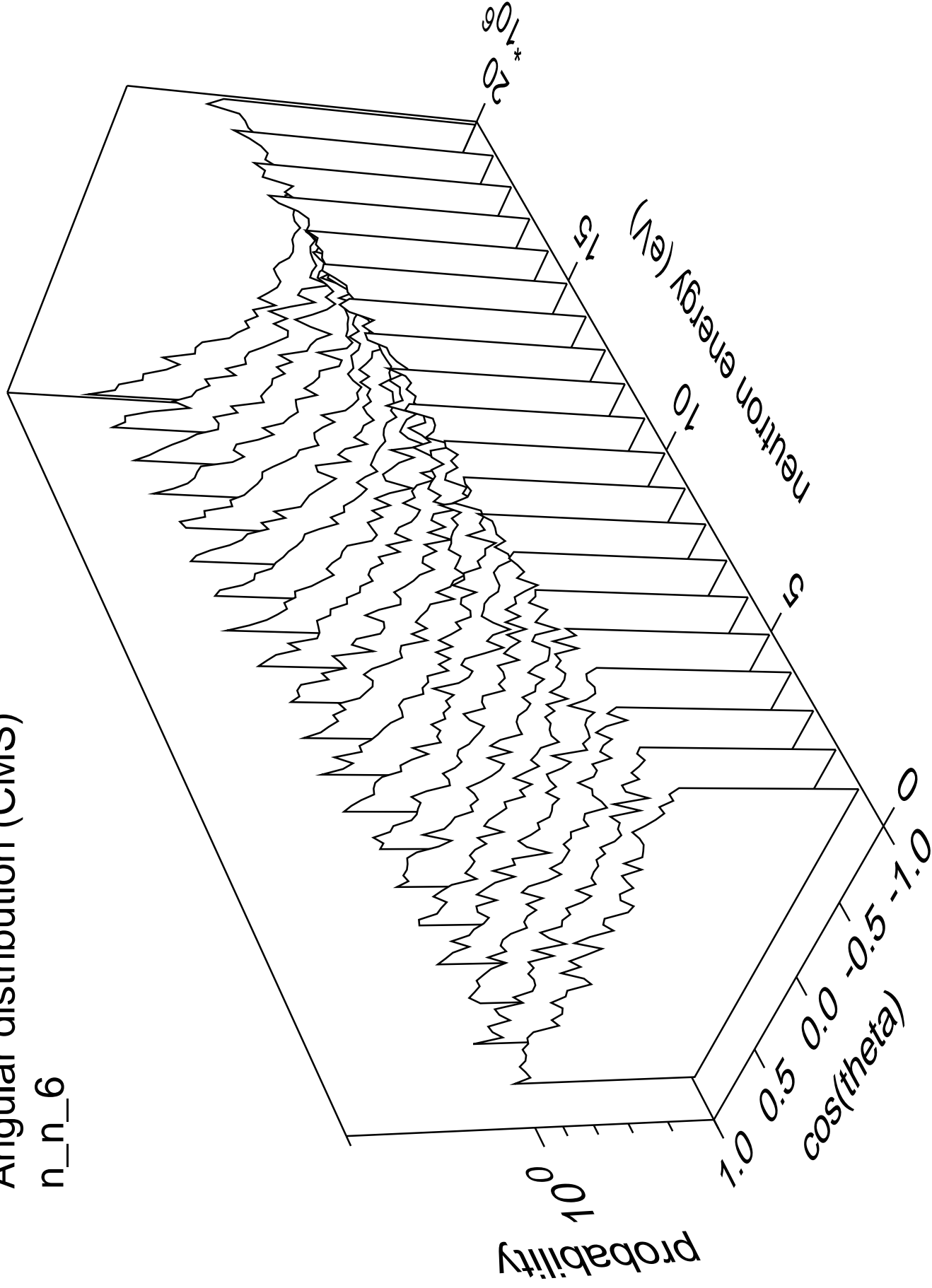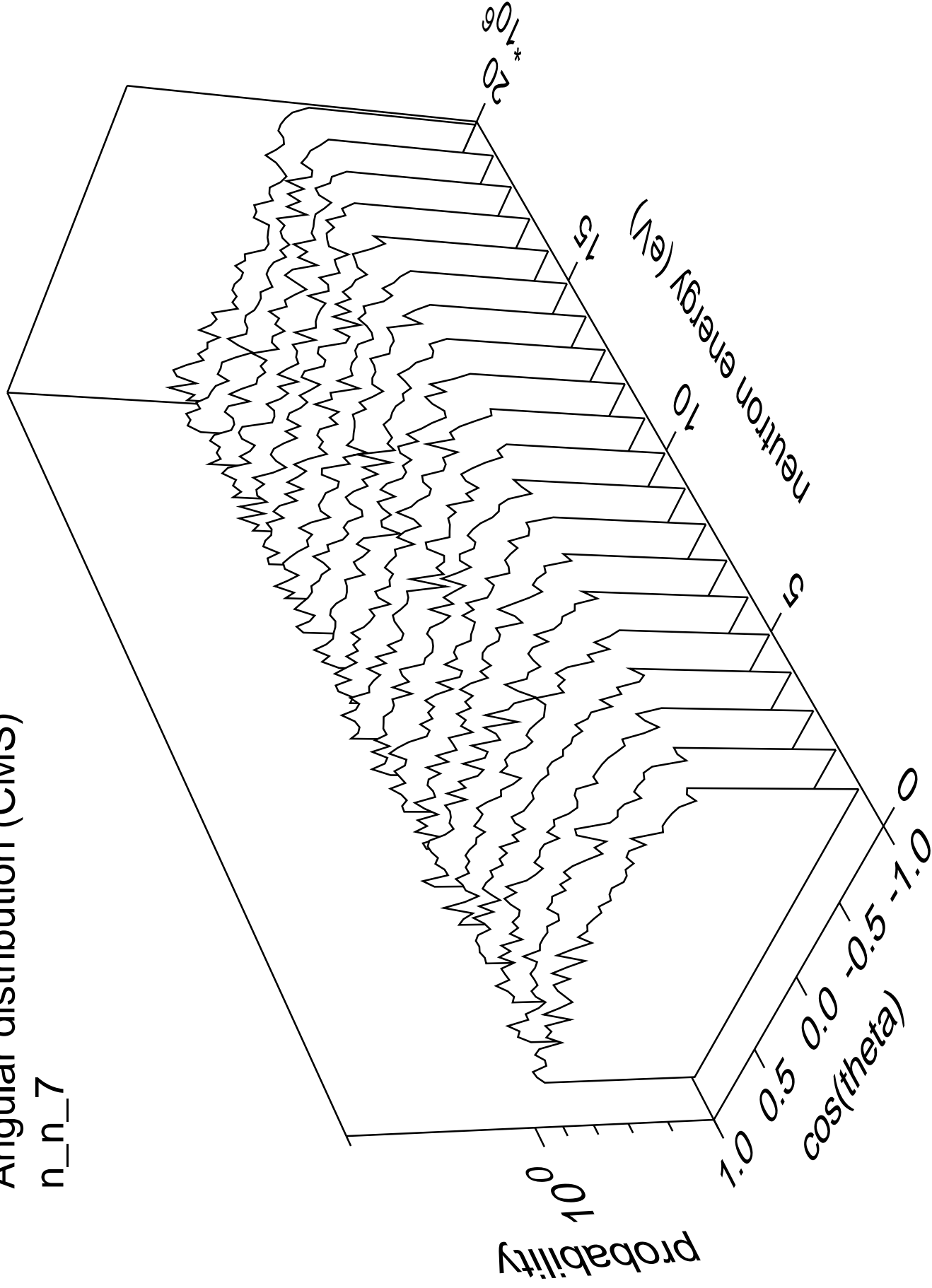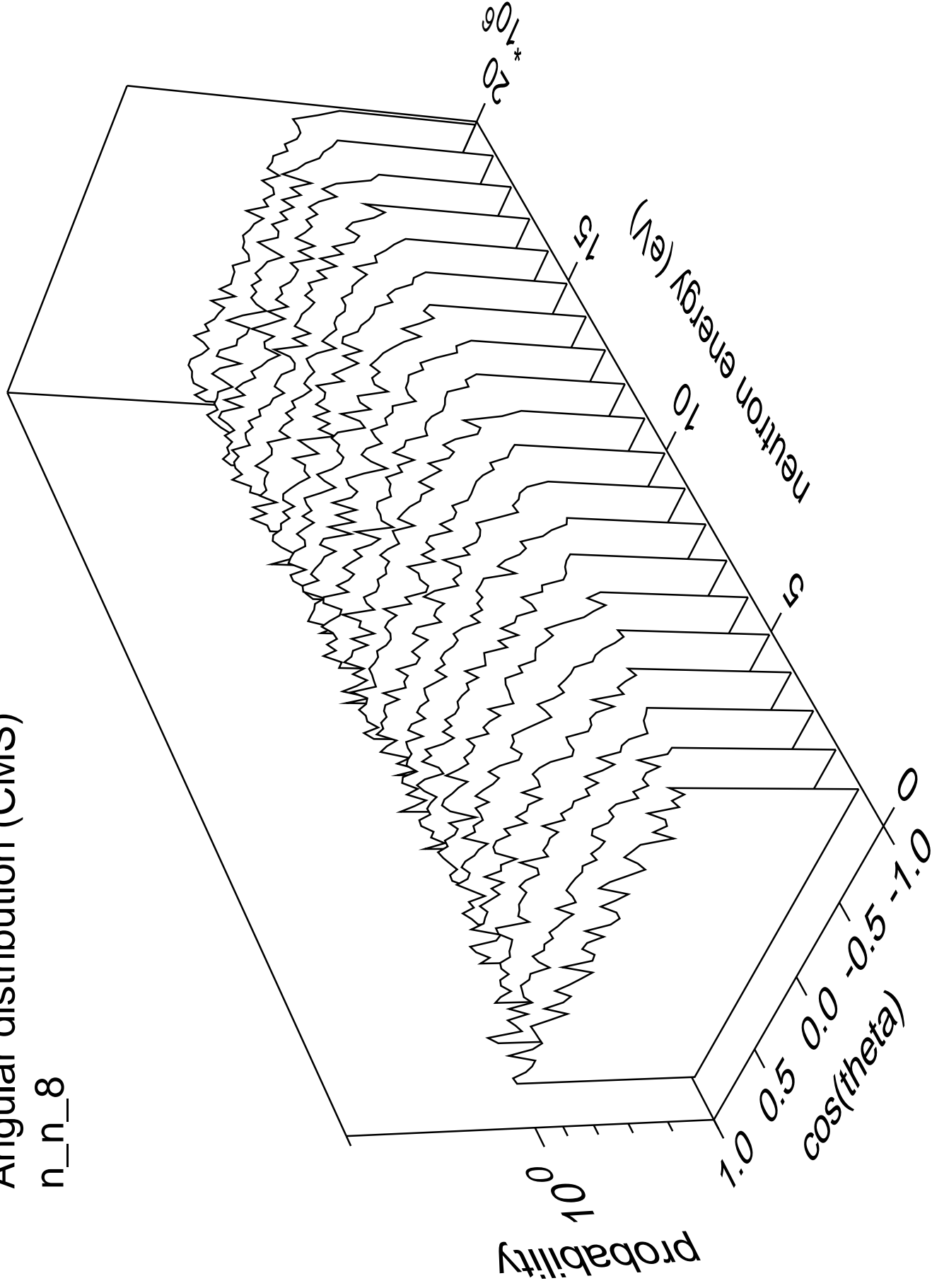
Angular distribution (CMS)
n_n_9

Angular distribution (CMS)
n_n_10
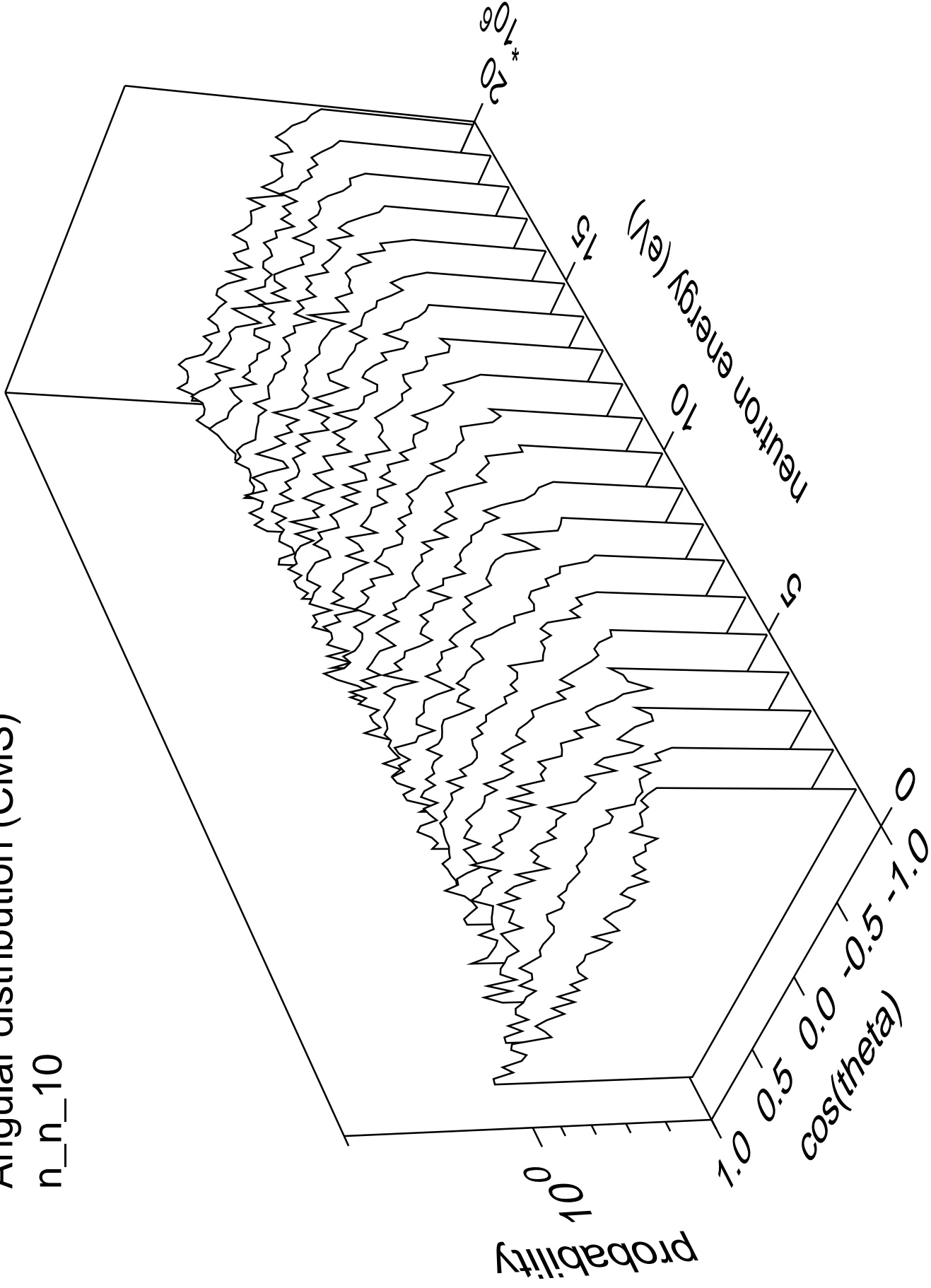
probability

cos(theta)

neutron energy (eV)

Angular distribution (CMS)

n_n_11

probability

cos(theta)

neutron energy (eV)

Angular distribution (CMS)
n_n_12

probability

10⁰

cos(theta)

1.0 0.5 0.0 -0.5 -1.0

neutron energy (eV)

0 5 10 15 20
*10⁶
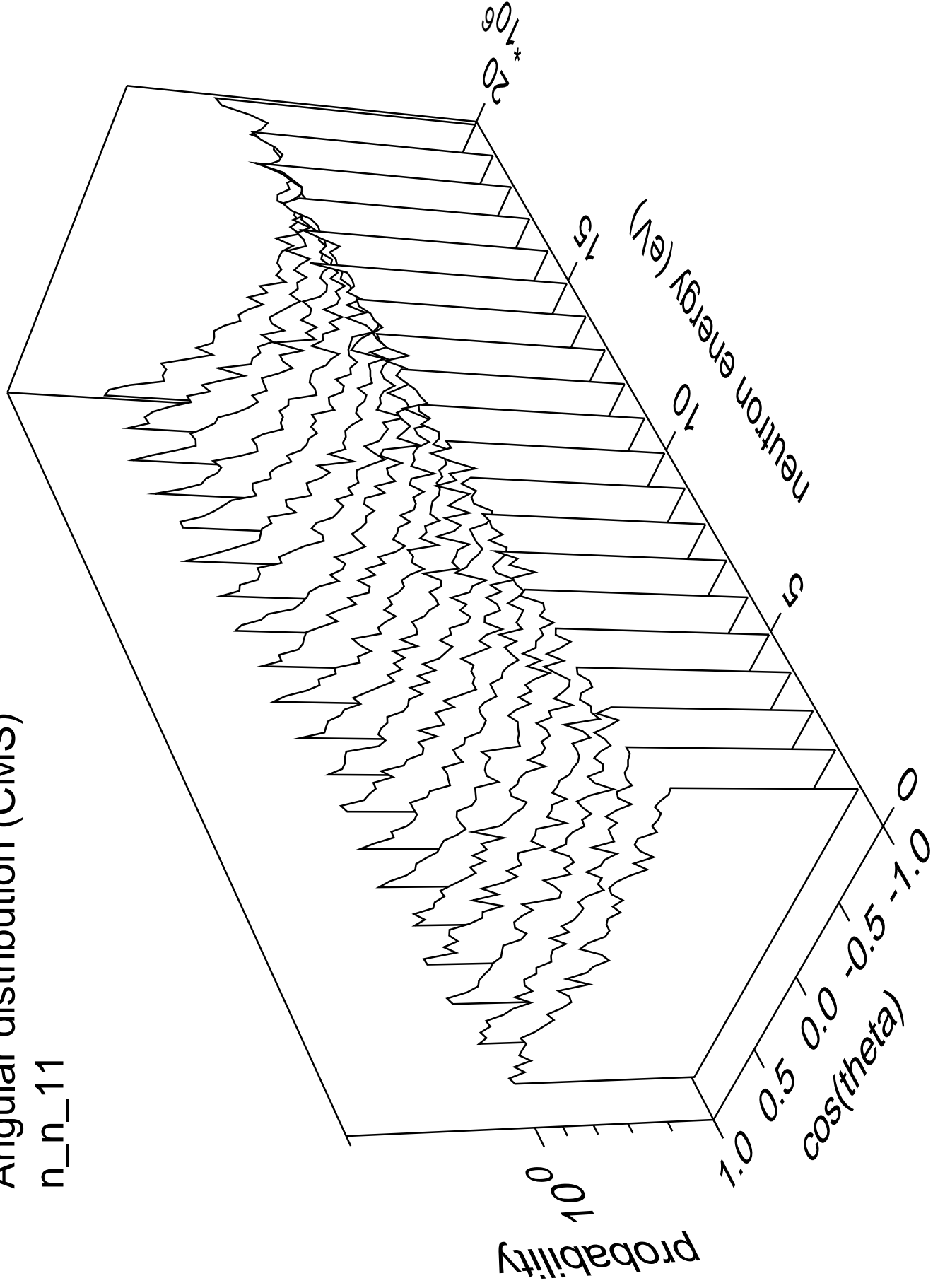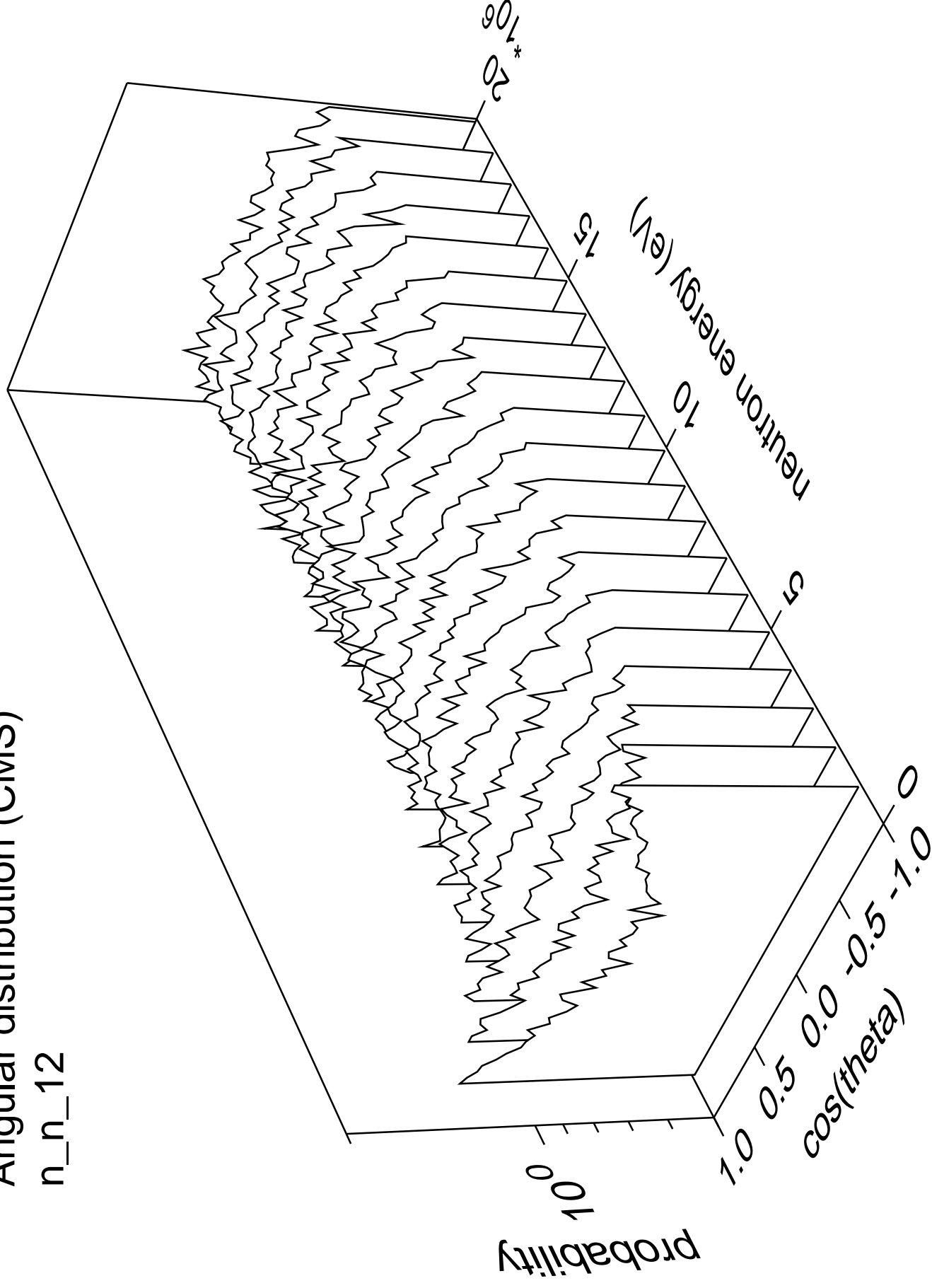
Angular distribution (CMS)
n_n_13

Angular distribution (CMS)
n_n_14
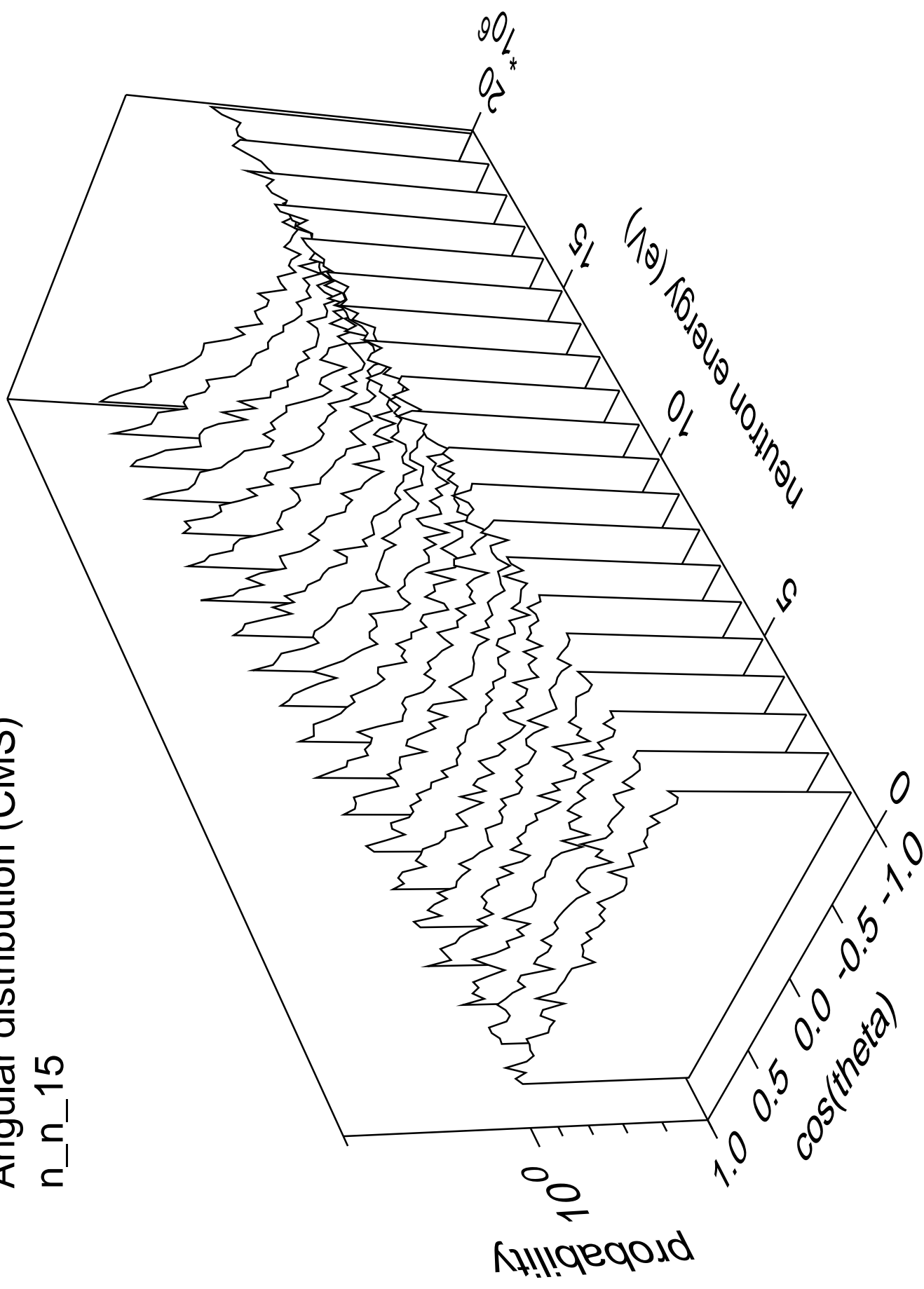
probability

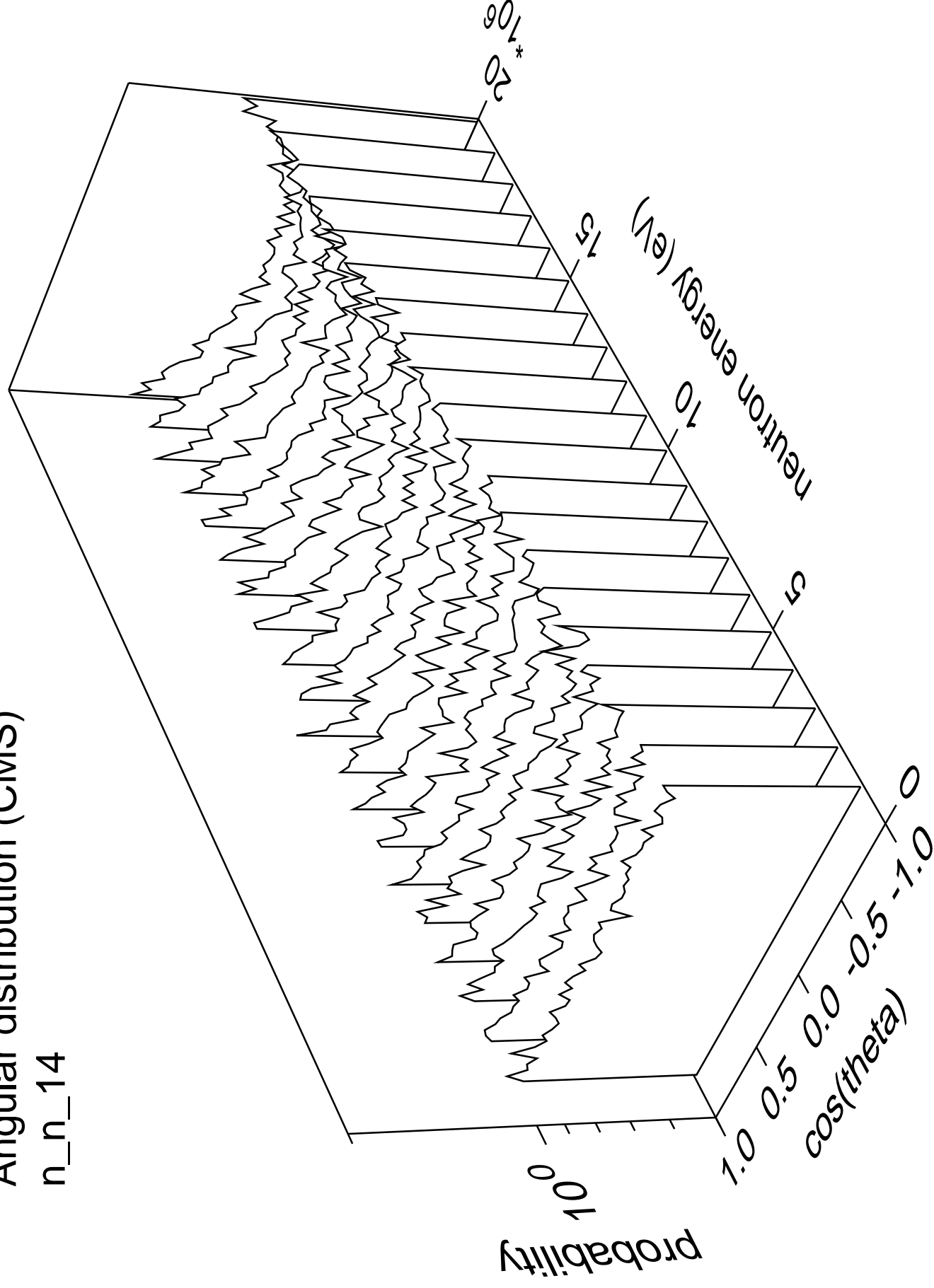cos(theta)

neutron energy (eV)

Angular distribution (CMS)
n_n_15

probability

neutron energy (eV)

cos(theta)

20
*10⁶

15

10

5

0

1.0 0.5 0.0 -0.5 -1.0

Angular distribution (CMS)
n_n_16

probability

neutron energy (eV)

cos(theta)

Energy distribution (LABS)

n_2n

probability

10^1

10^{-1}

energy (eV)

0   5   10   15   20 $*10^6$

neutron energy (eV)

5   10   15 $*10^6$

Energy distribution (LABS)
n_3n

probability

10^1

10^{-1}

energy (eV)

0   2   4   6   *10^6

14   16   18   20 *10^6

neutron energy (eV)
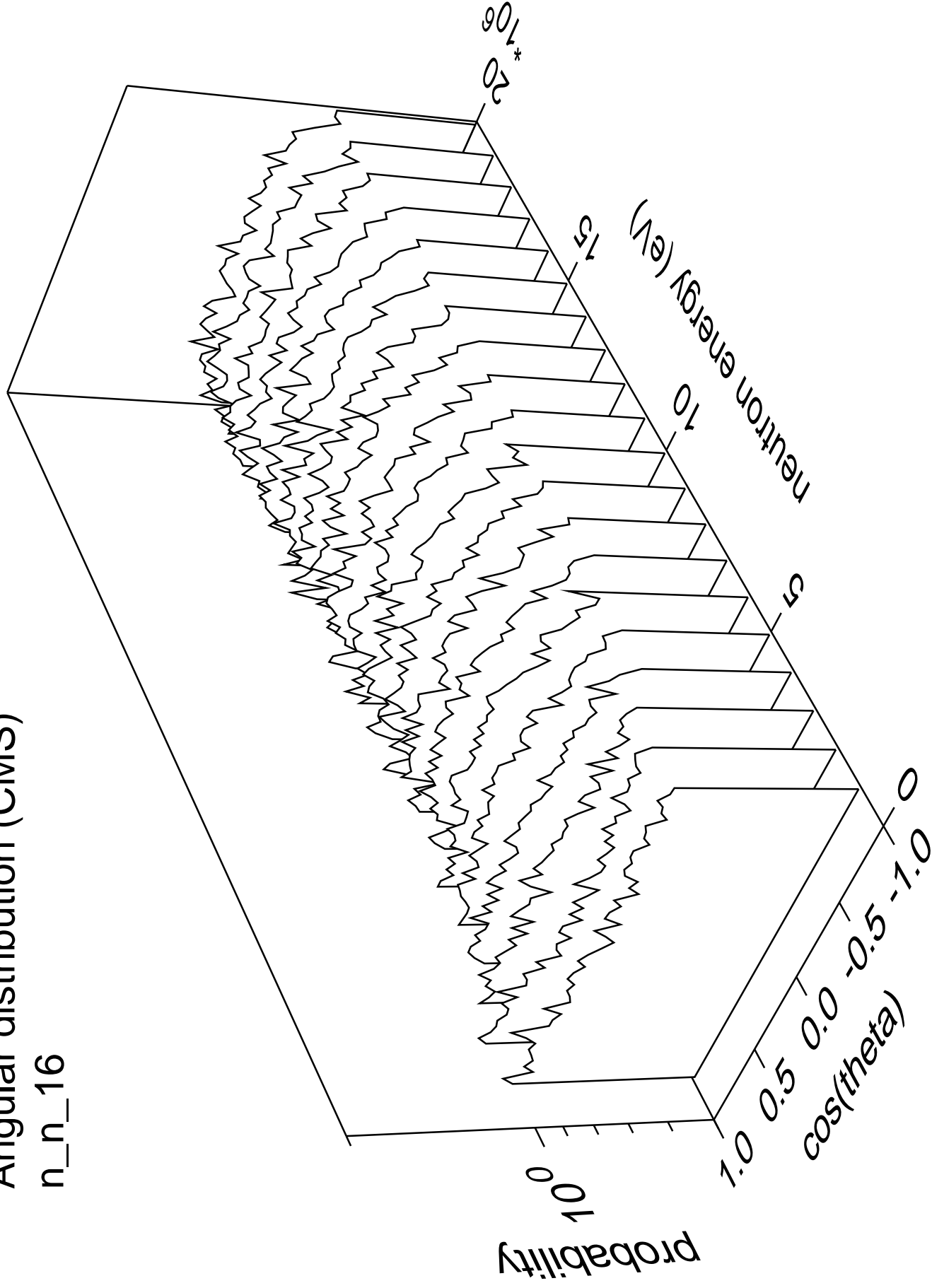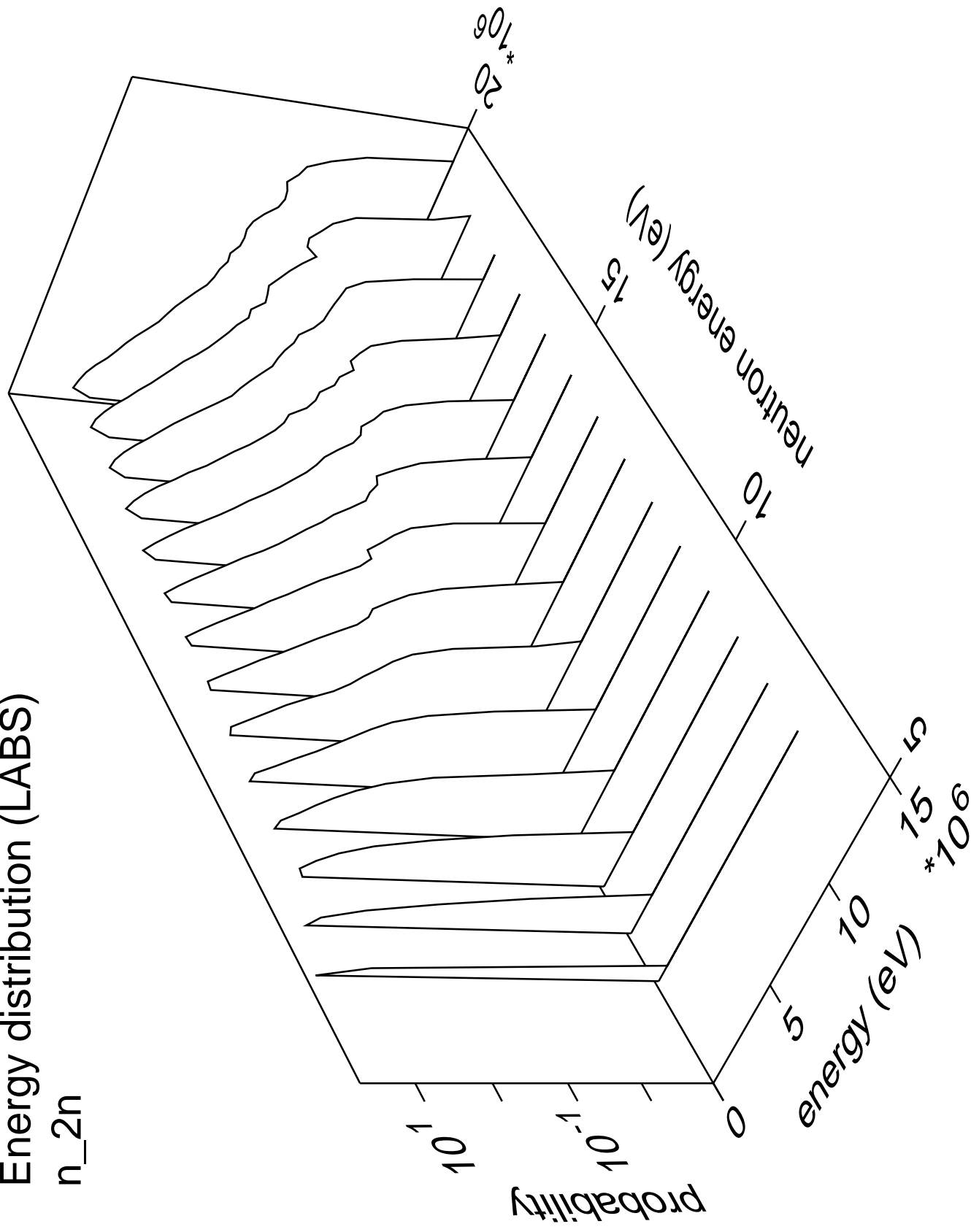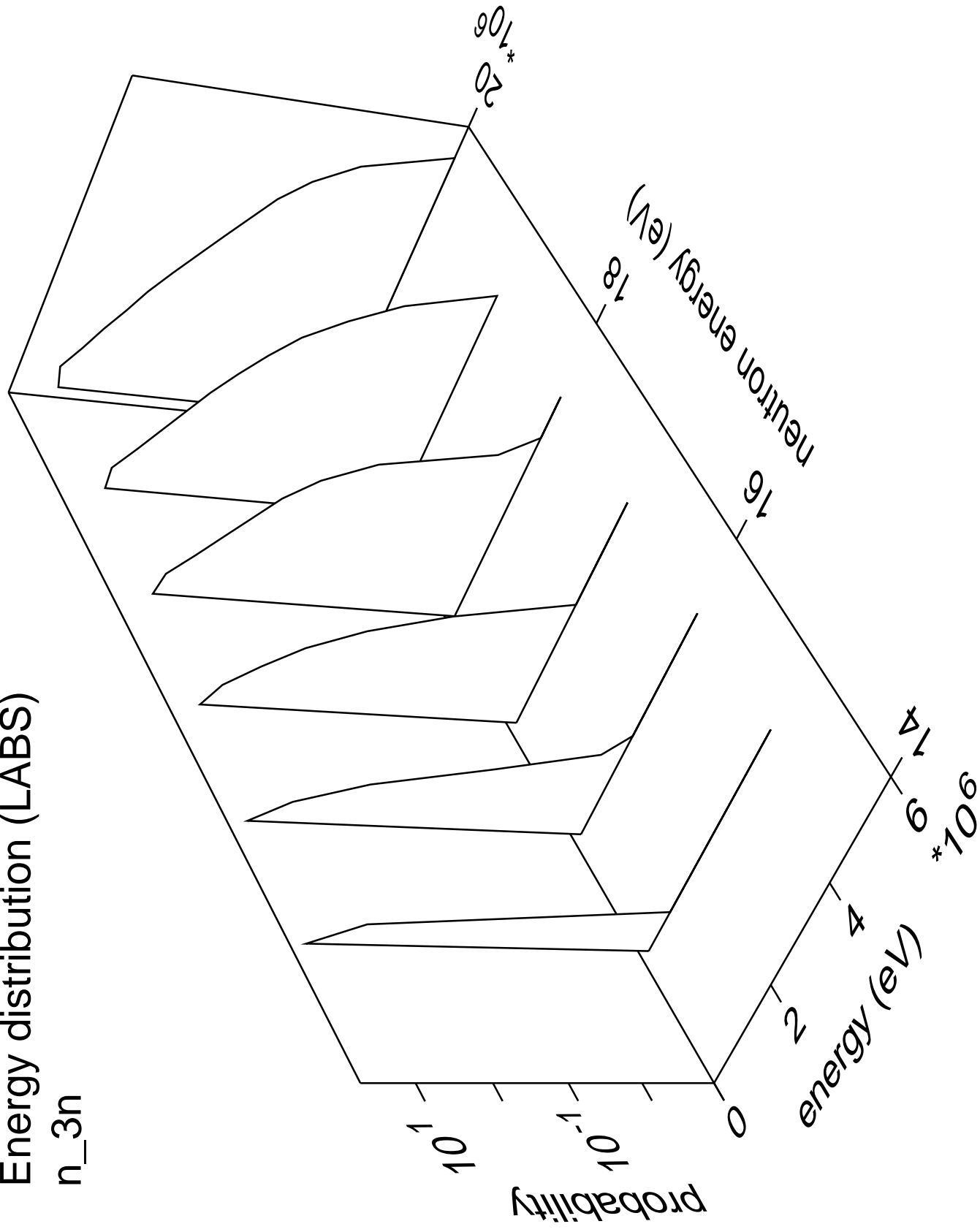
Energy distribution (LABS)
n_n_cont

probability

10^1

10^{-1}

energy (eV) *106

0   5   10   15   20

neutron energy (eV)

5   10   15   20 *106
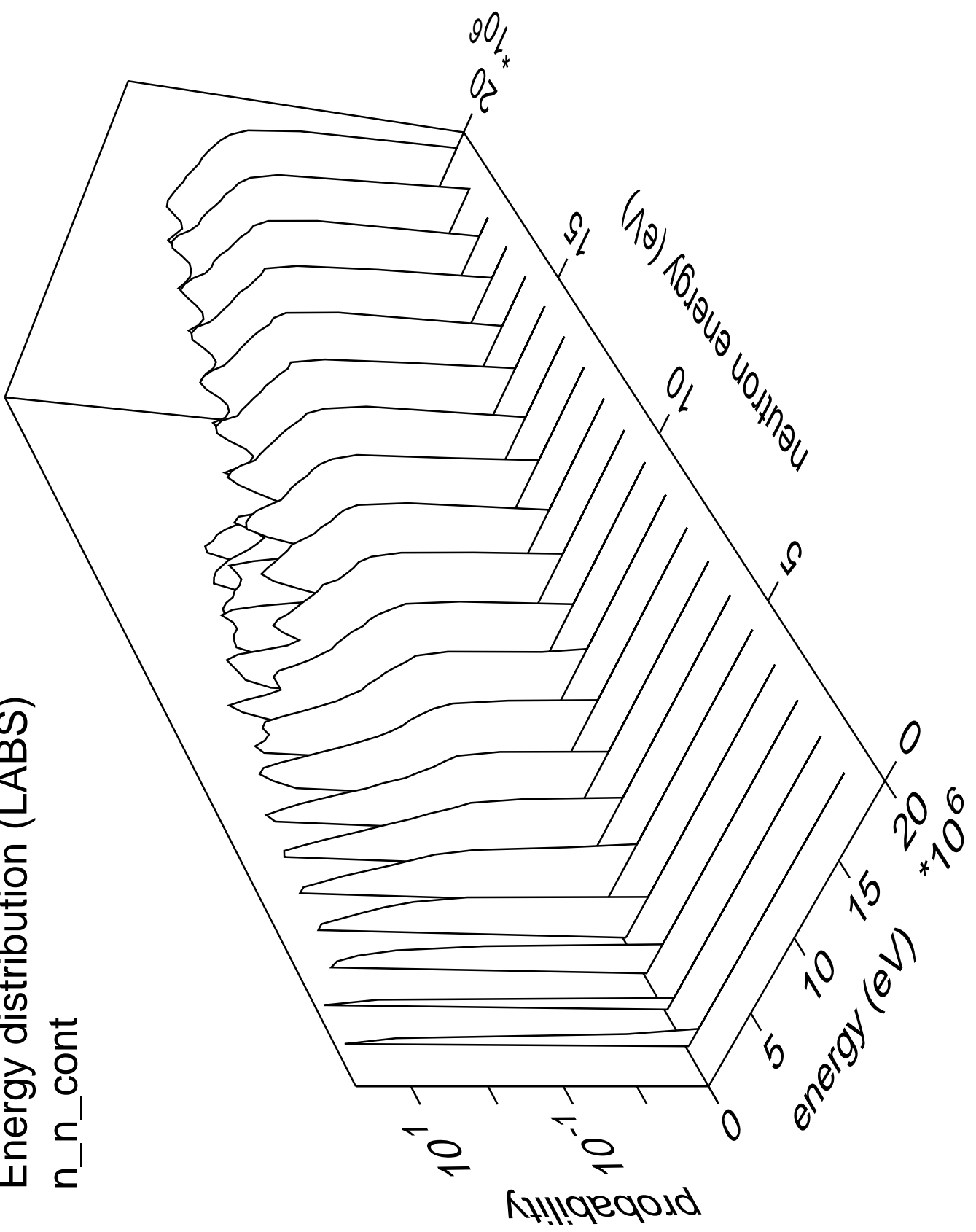
Gamma energy distribution
Capture

Gamma angles distribution
Capture

probability

cos(theta)

neutron energy (eV)

Gamma multiplicities distribution
Capture

probability

multiplicity

neutron energy (eV)

*10⁶

Gamma energy distribution
n_2n

probability

neutron energy (eV)

20
15
10
5

*10⁶

gamma energy (MeV)

0
5
10
15
20

20
40
60

Gamma angles distribution
n_2n

probability

neutron energy (eV)

cos(theta)

20 *10⁶

15

10

5

1.0 0.5 0.0 -0.5 -1.0
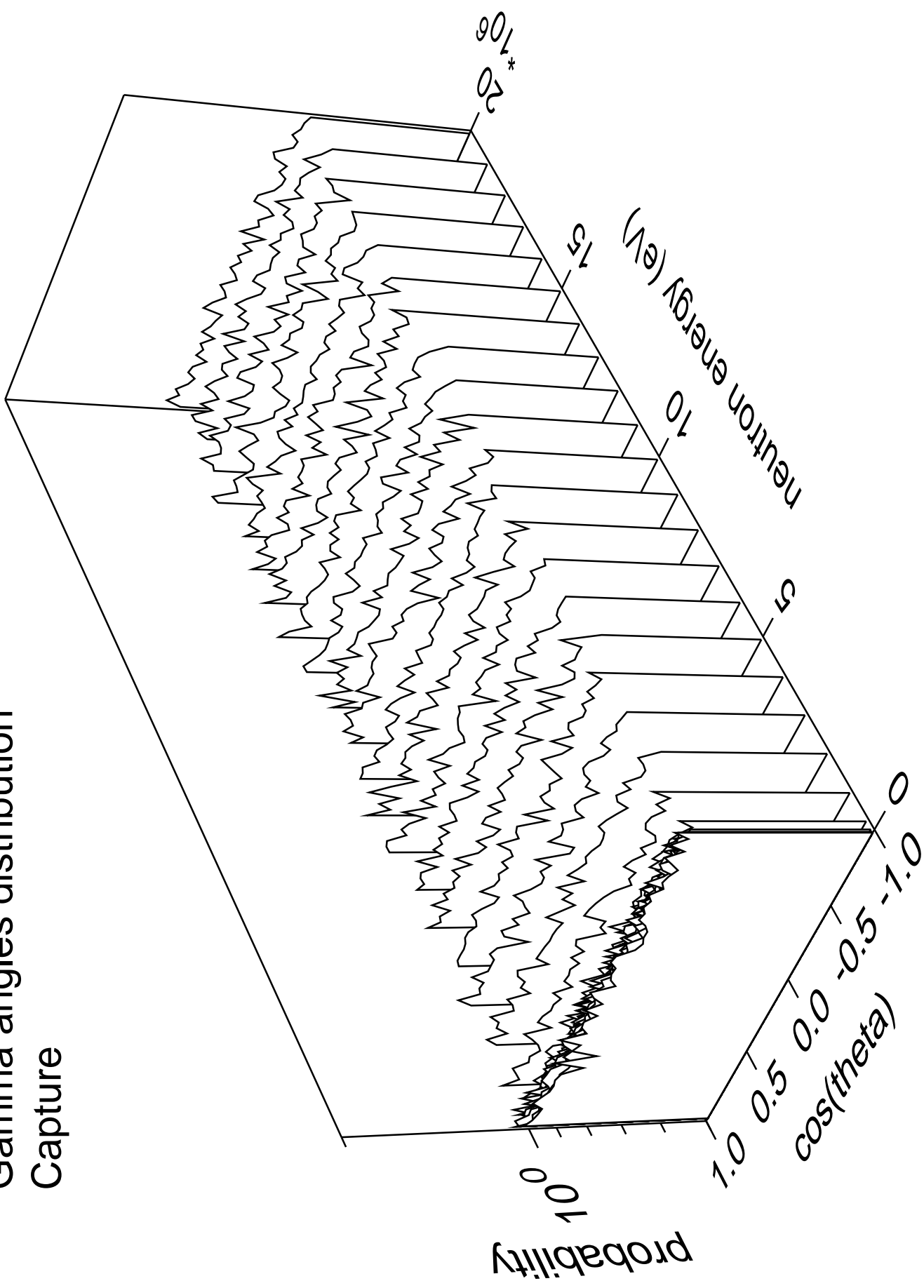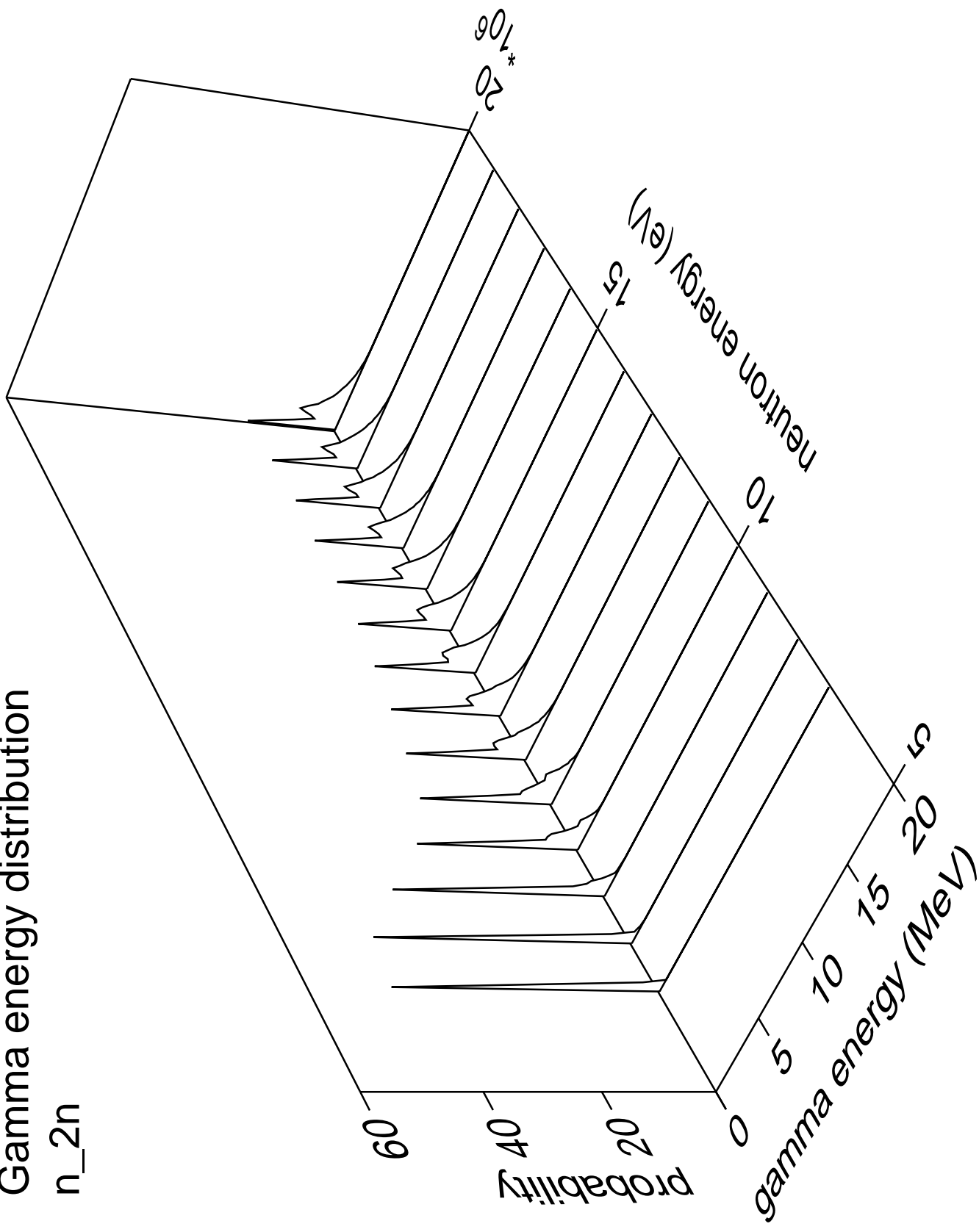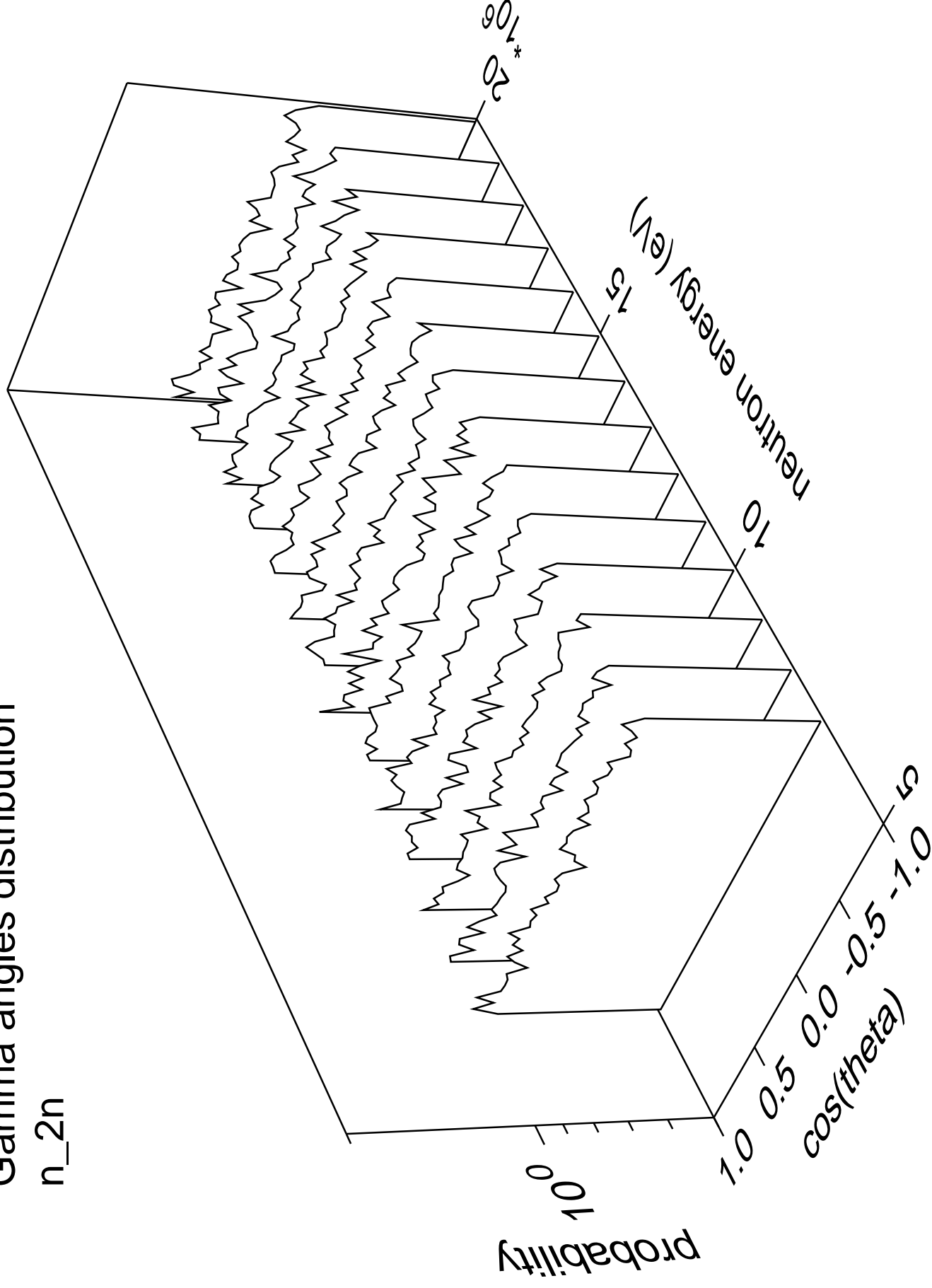
Gamma multiplicities distribution n_2n

Gamma energy distribution
n_3n

probability

gamma energy (MeV)

neutron energy (eV)

Gamma angles distribution
n_3n

probability

cos(theta)

neutron energy (eV)
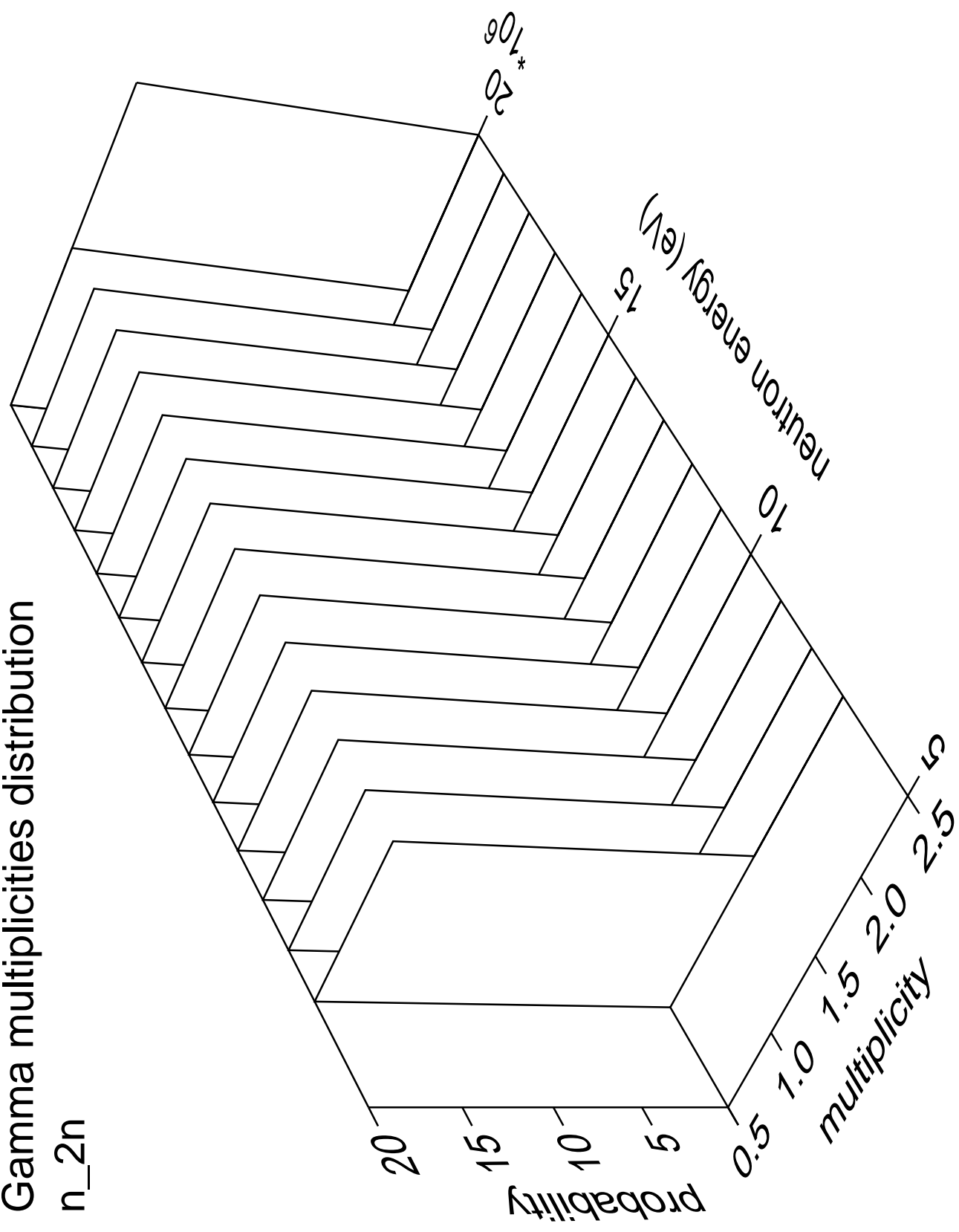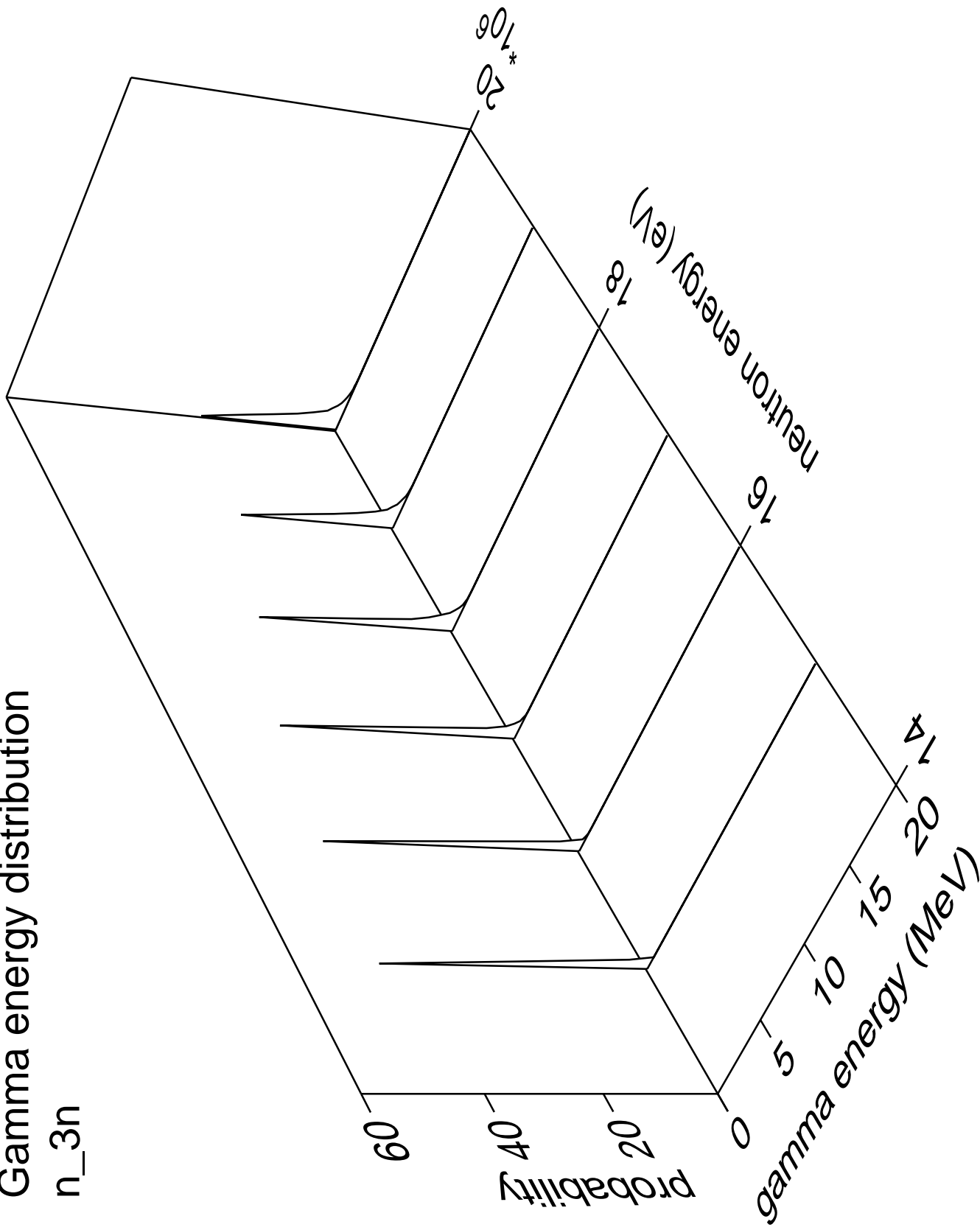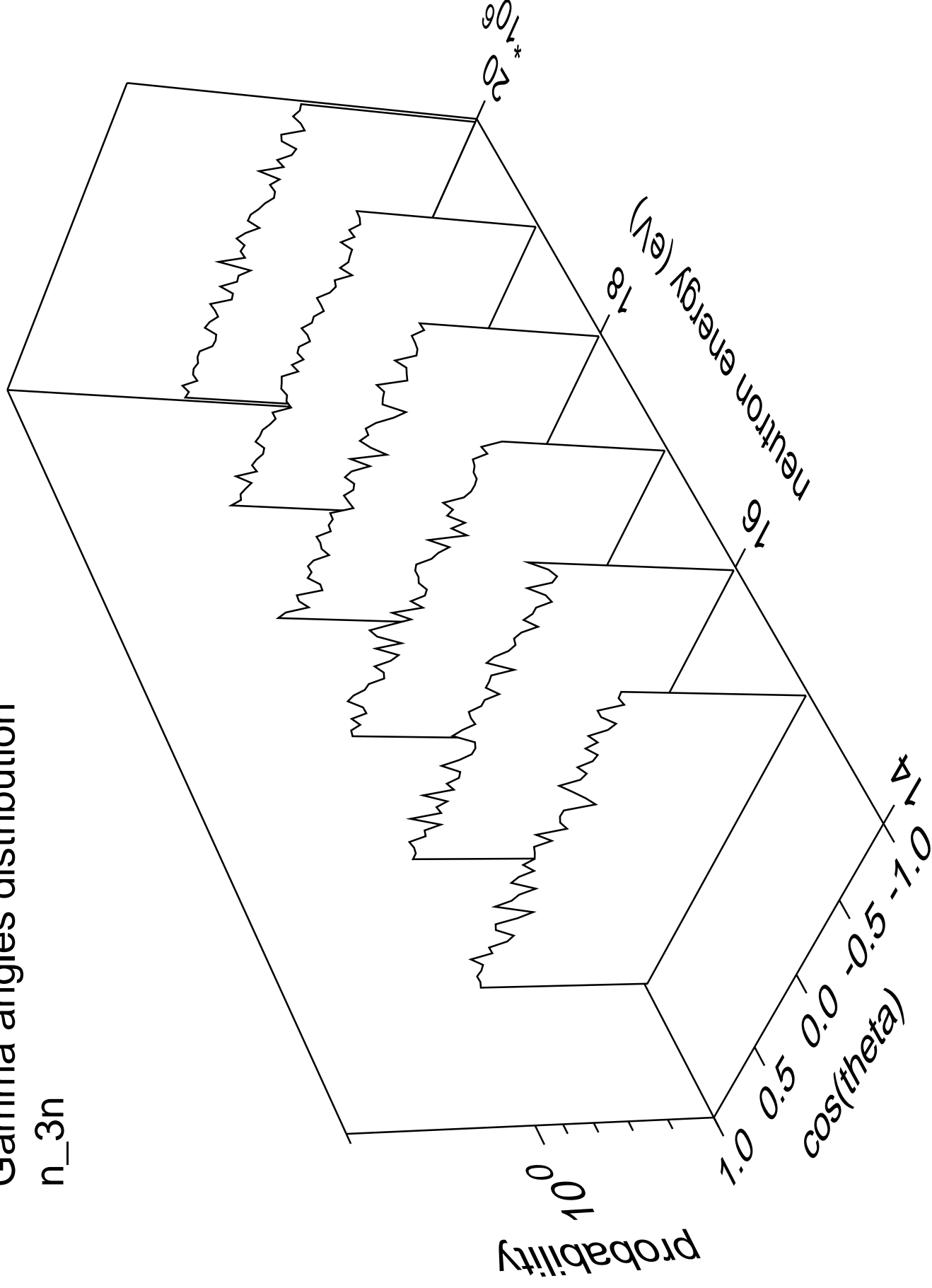
Gamma multiplicities distribution
n_3n

Gamma energy distribution
n_n_1

probability

neutron energy (eV)

gamma energy (MeV)

100

50

0

5

10

15

20 *10⁶

0

5

10

15

20

Gamma angles distribution
n_n_1

probability

cos(theta)

neutron energy (eV)

*10^6
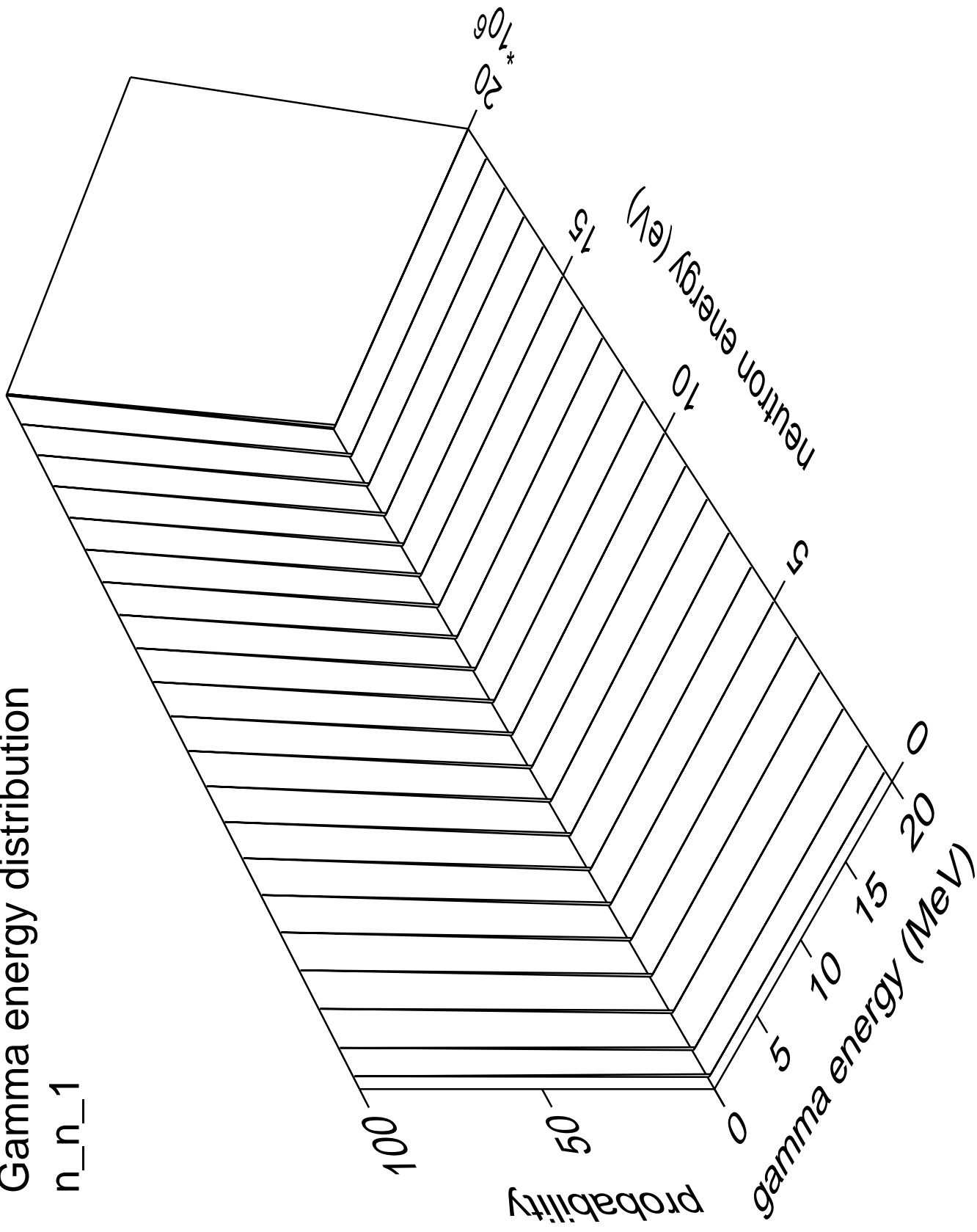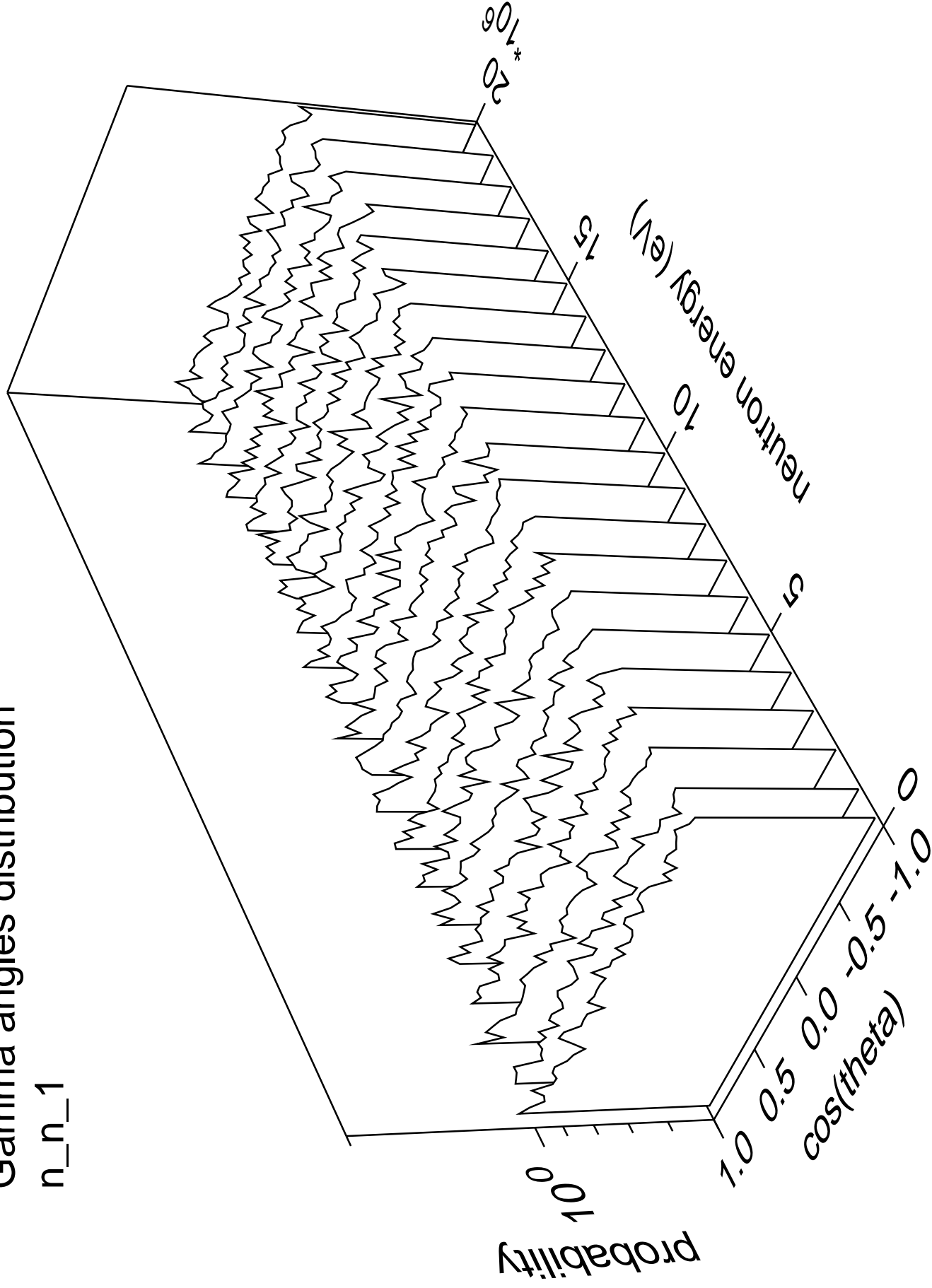
Gamma multiplicities distribution
n_n_1

Gamma energy distribution
n_n_2

probability

neutron energy (eV)

gamma energy (MeV)

20 *10⁶

100 80 60 40 20 0

15 10 5

0 5 10 15 20

Gamma angles distribution
n_n_2

probability

neutron energy (eV)

cos(theta)
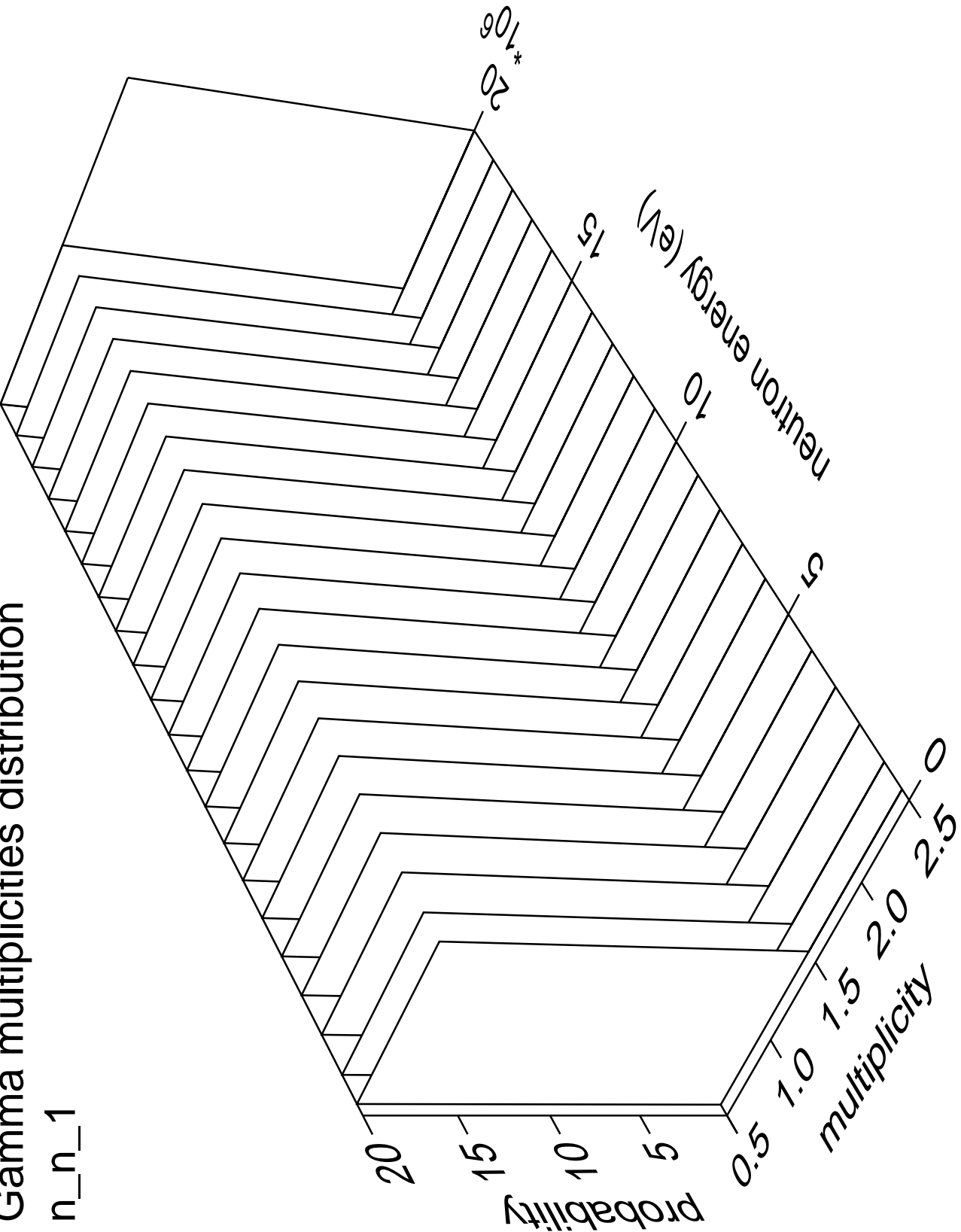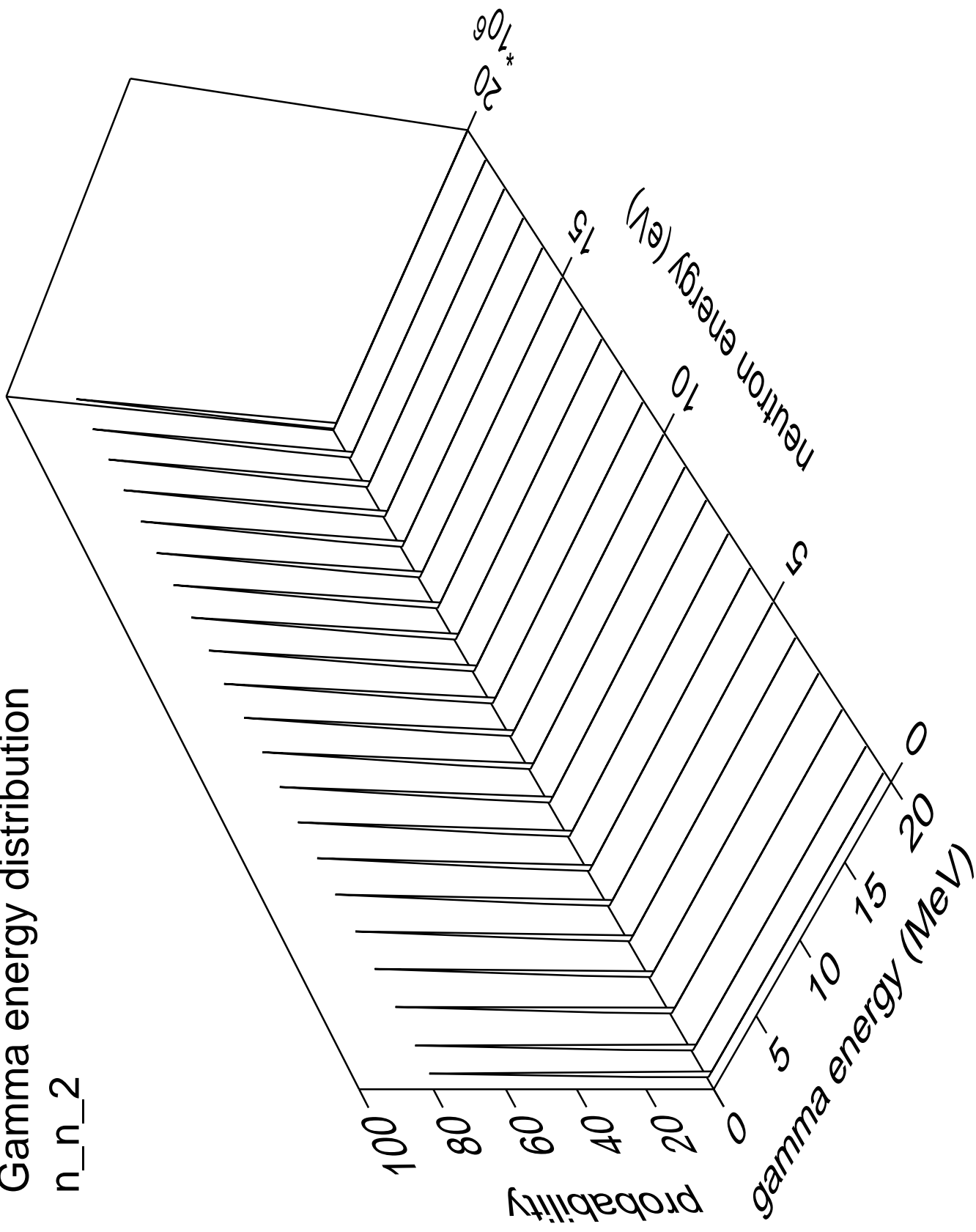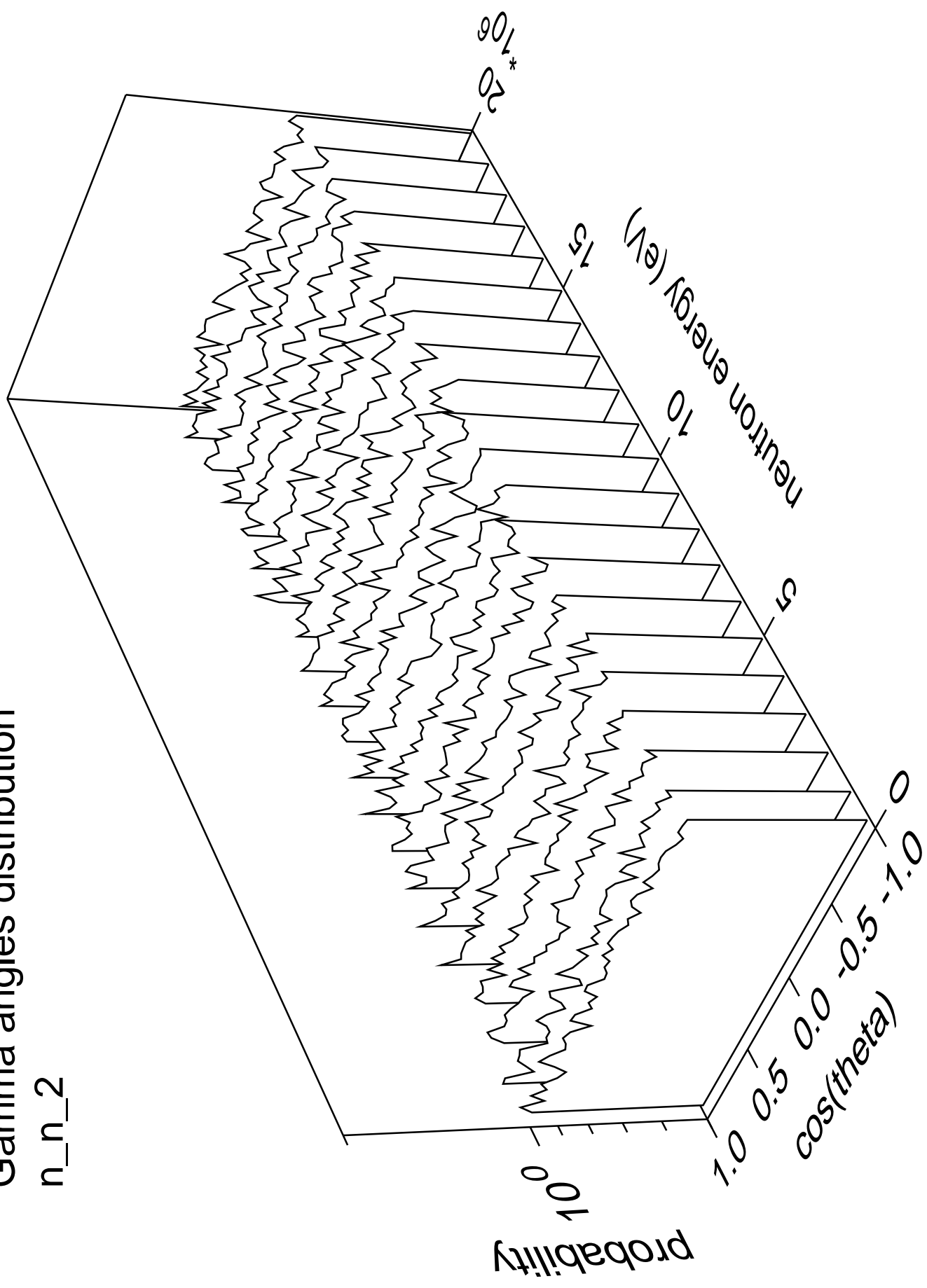
Gamma multiplicities distribution
n_n_2

Gamma energy distribution
n_n_3

probability

100 80 60 40 20 0

gamma energy (MeV)

5 10 15 20

neutron energy (eV)

5 10 15 20 *10⁶

Gamma angles distribution
n_n_3

probability

neutron energy (eV)

cos(theta)

$*10^6$
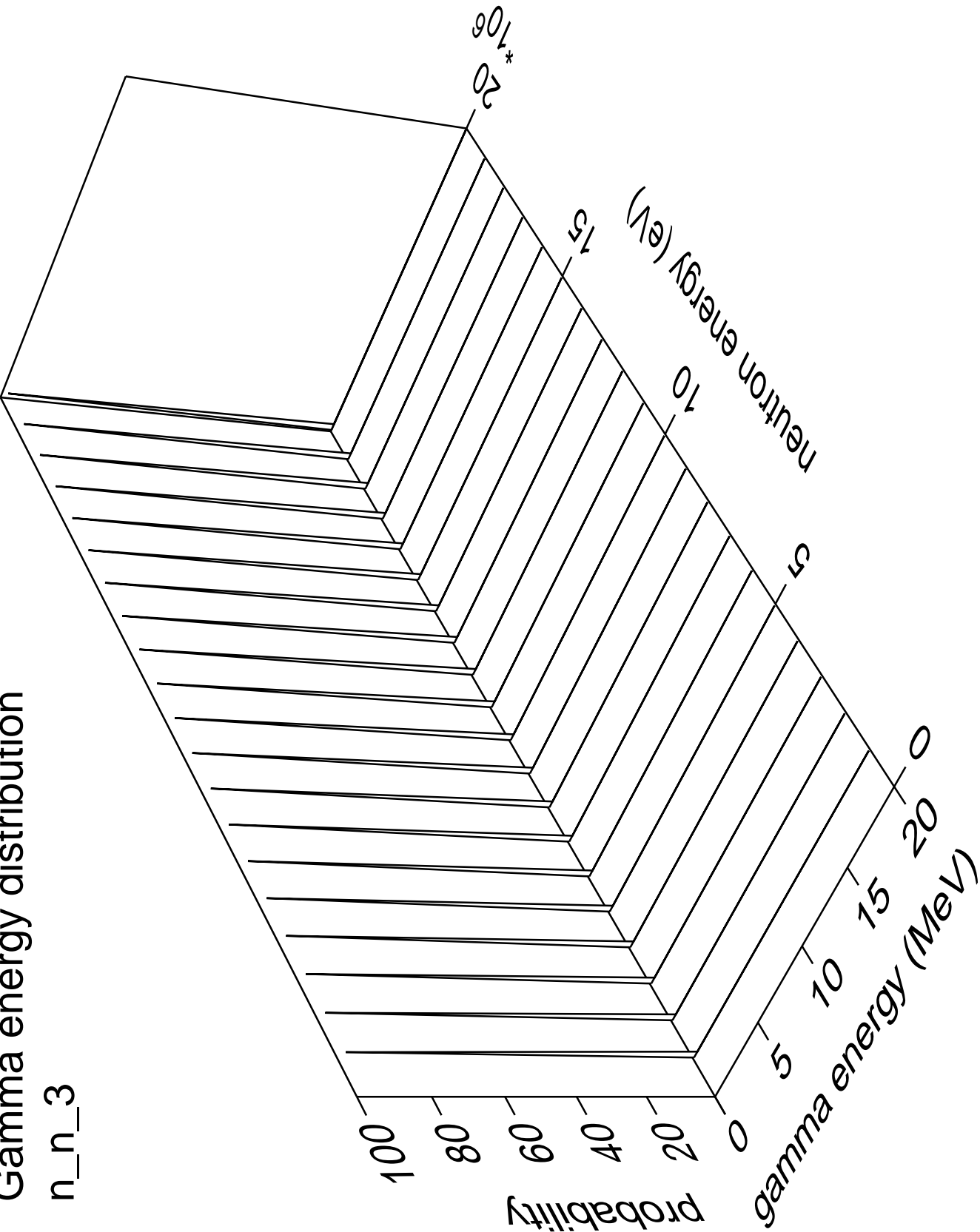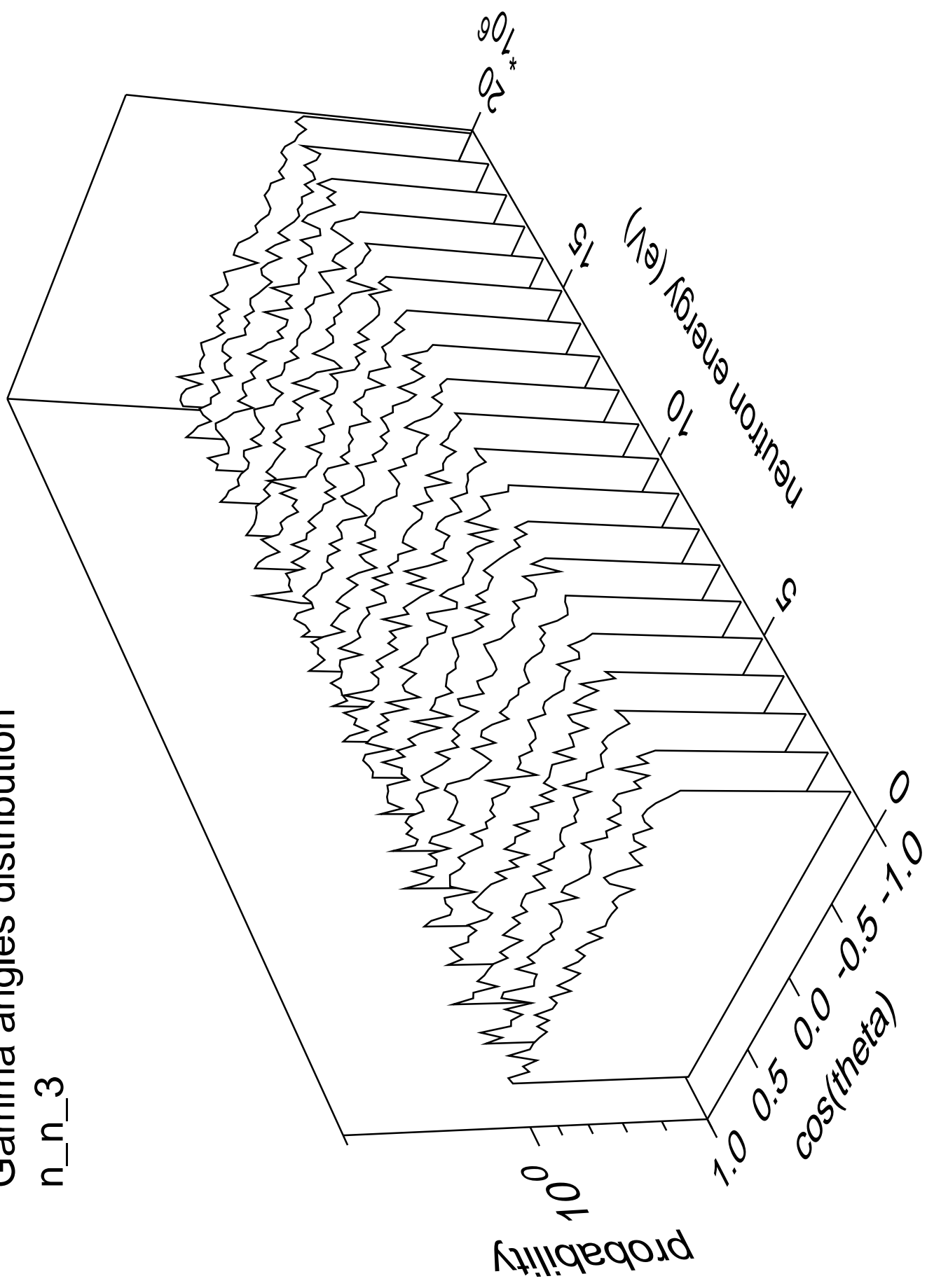
Gamma multiplicities distribution
n_n_3

Gamma energy distribution
n_n_4
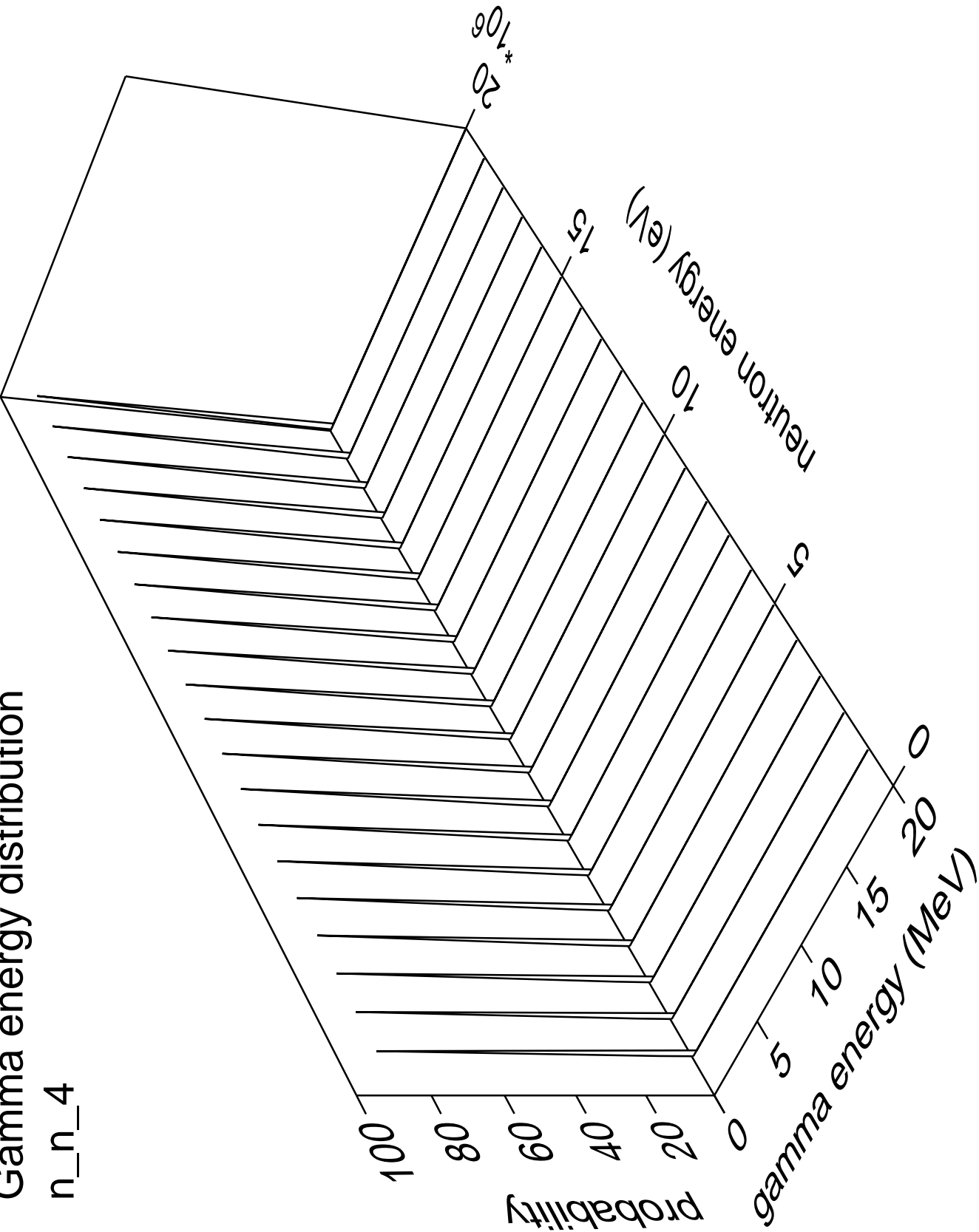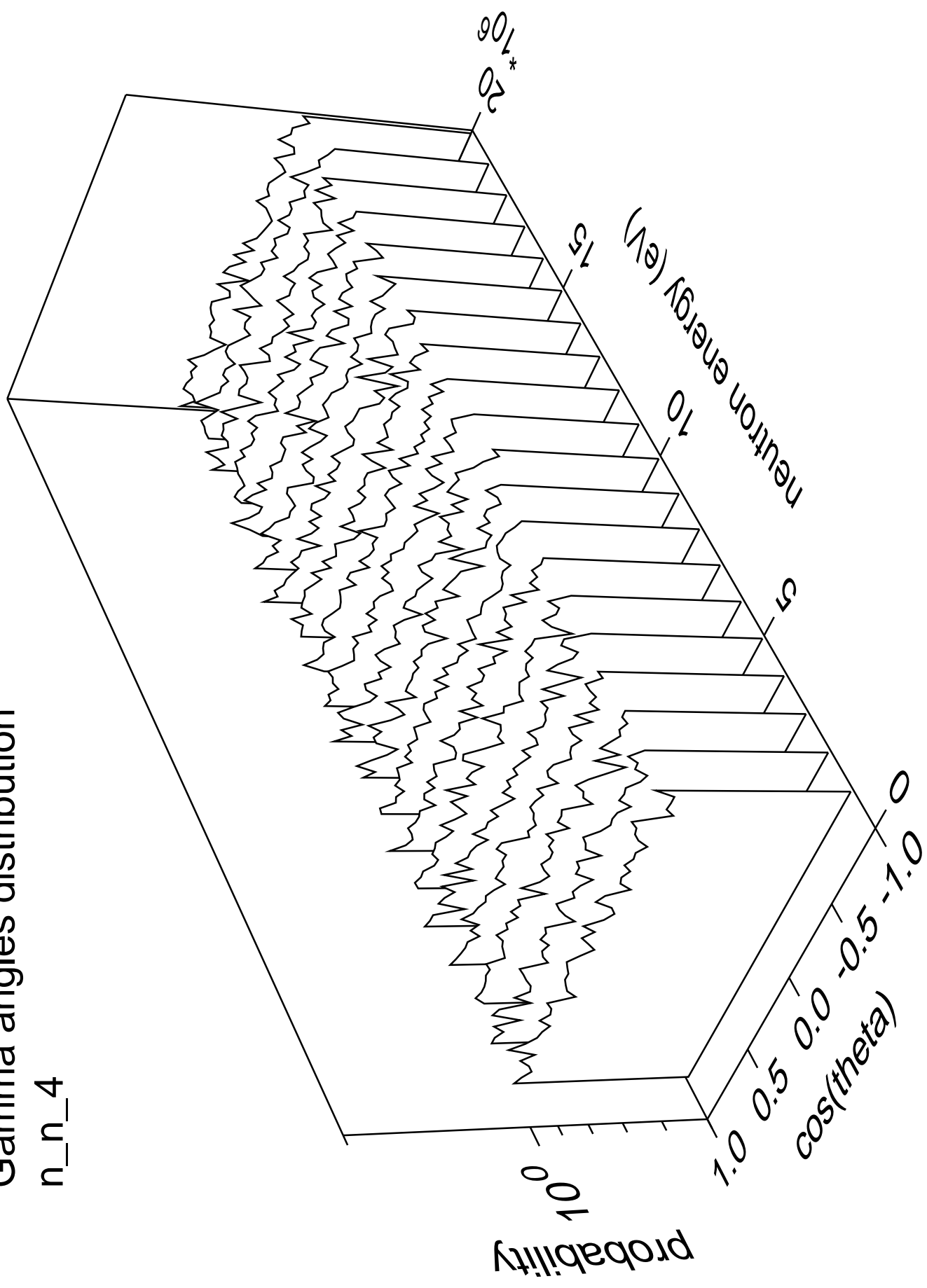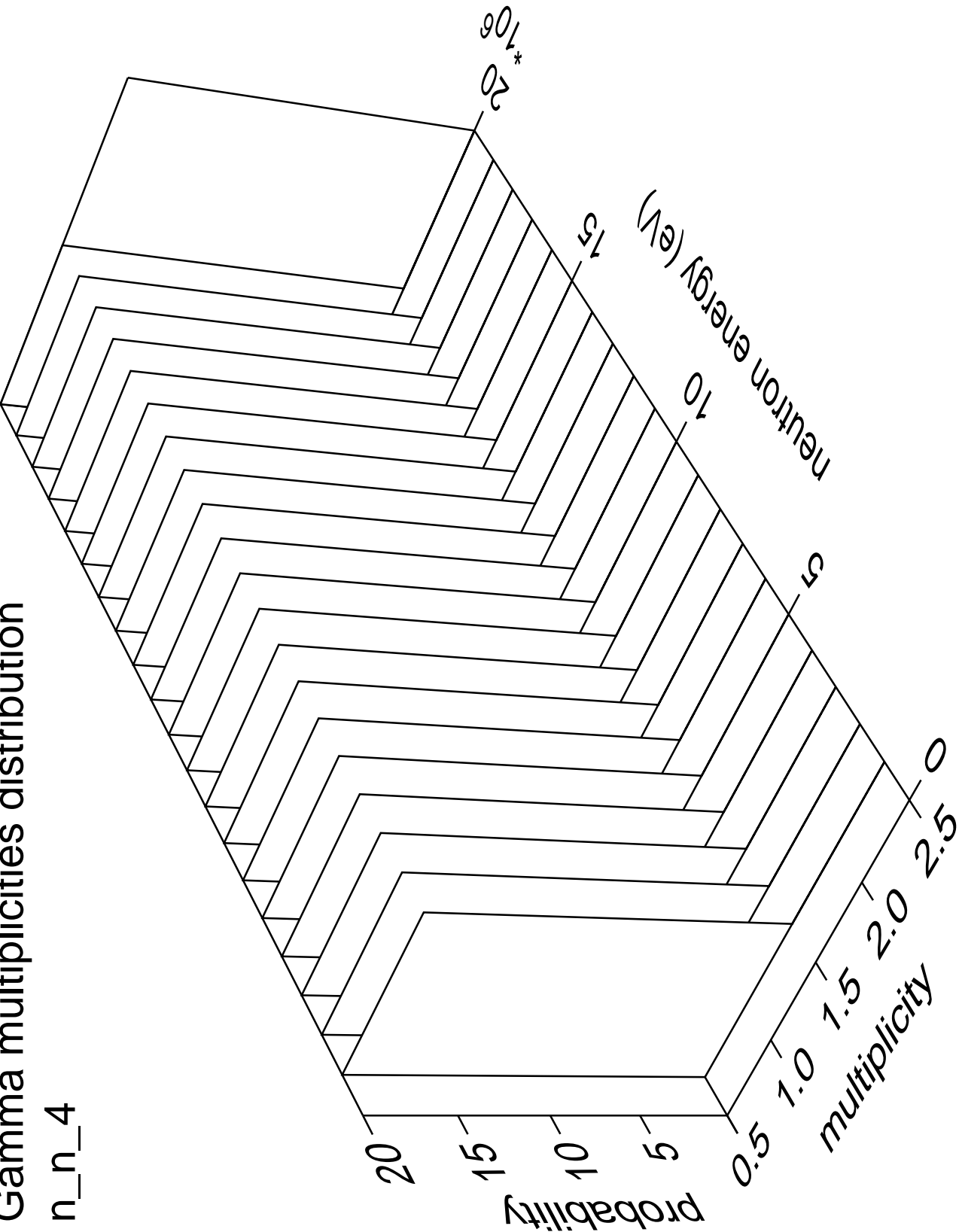
probability

gamma energy (MeV)

neutron energy (eV)

Gamma angles distribution
n_n_4

cos(theta)

neutron energy (eV)

probability

$*10^6$

Gamma multiplicities distribution
n_n_4

probability

neutron energy (eV)

multiplicity

Gamma energy distribution
n_n_5

probability
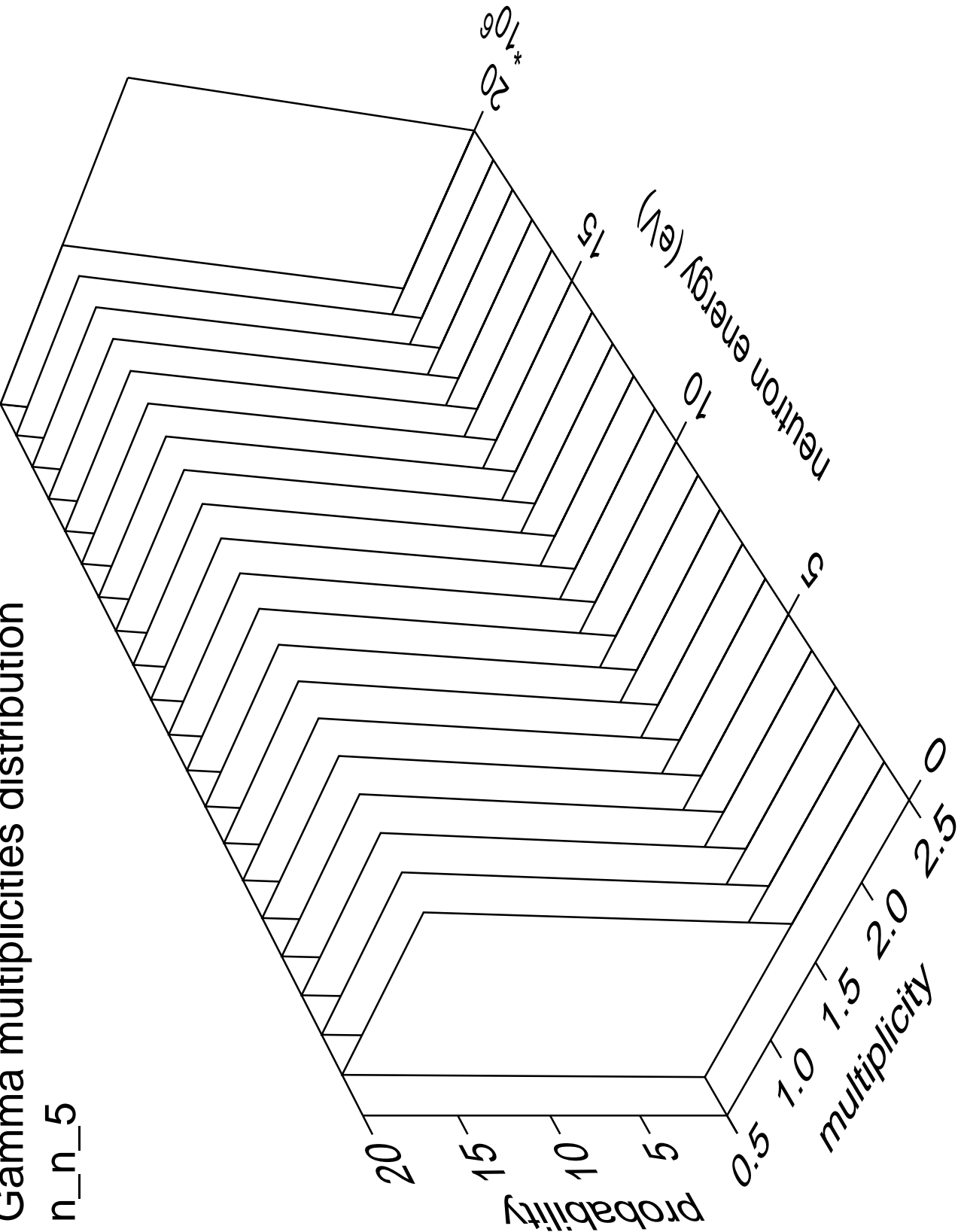
gamma energy (MeV)

neutron energy (eV)

20 *10^6

15

10

5

100

80

60

40

20

0

5

10

15

20

0

Gamma angles distribution
n_n_5

probability

cos(theta)

neutron energy (eV)

Gamma multiplicities distribution
n_n_5

probability

multiplicity

neutron energy (eV)

*10^6

Gamma energy distribution
n_n_6

probability

gamma energy (MeV)

neutron energy (eV)

20 *10⁶

15

10

5

20

15

10

5

0

100

80

60

40

20

0

Gamma angles distribution
n_n_6

probability

cos(theta)

neutron energy (eV)
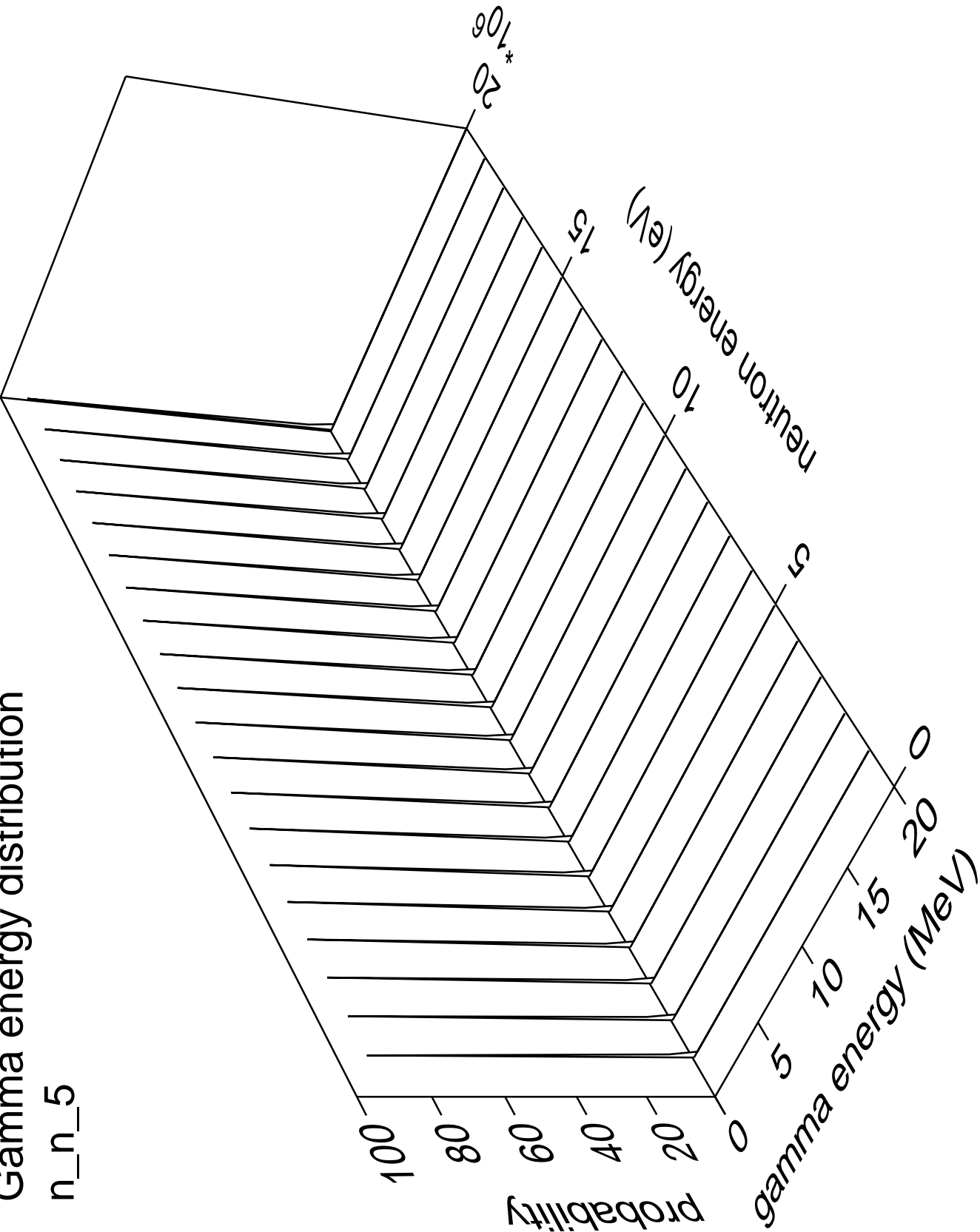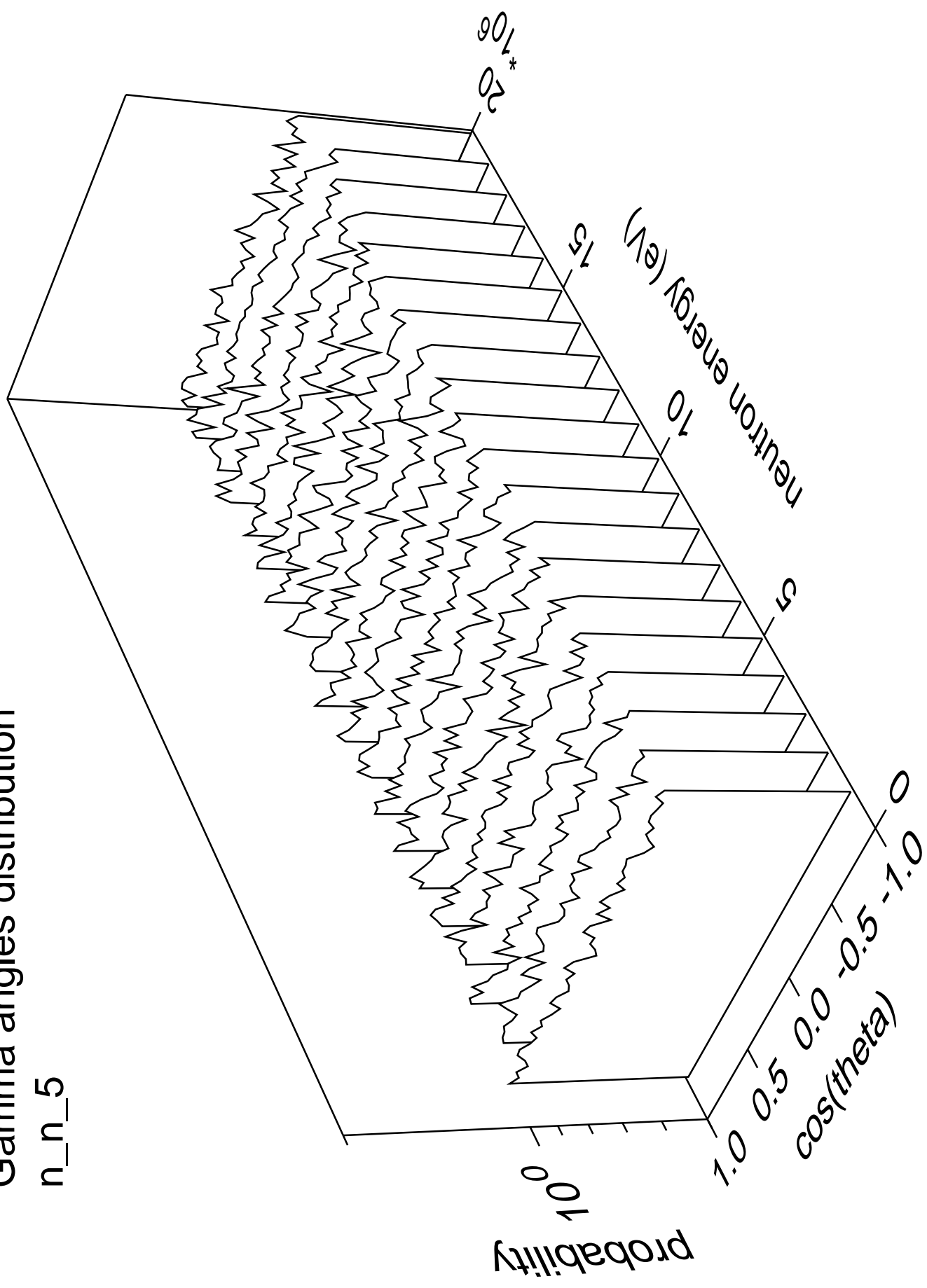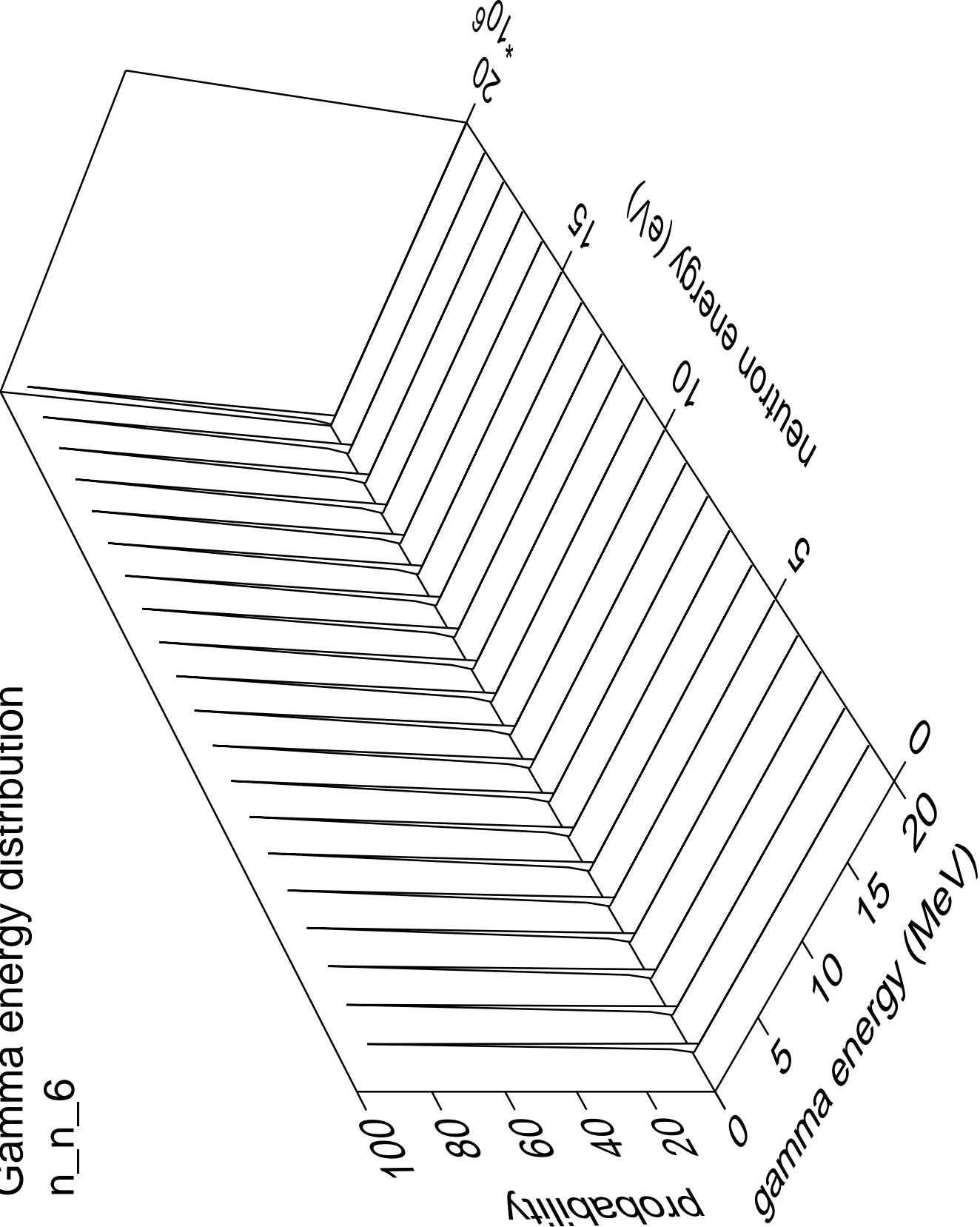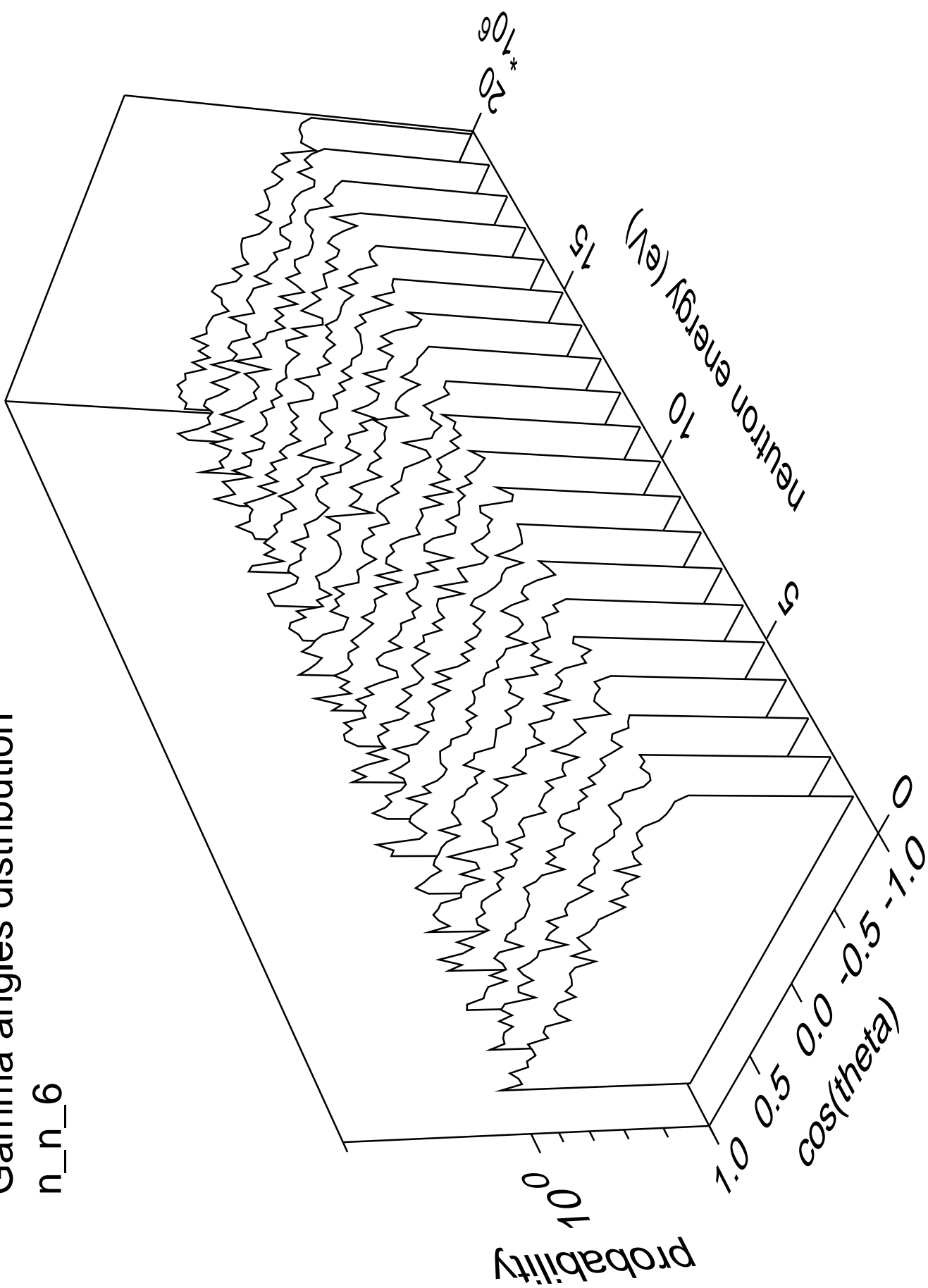
Gamma multiplicities distribution
n_n_6

Gamma energy distribution
n_n_7

probability

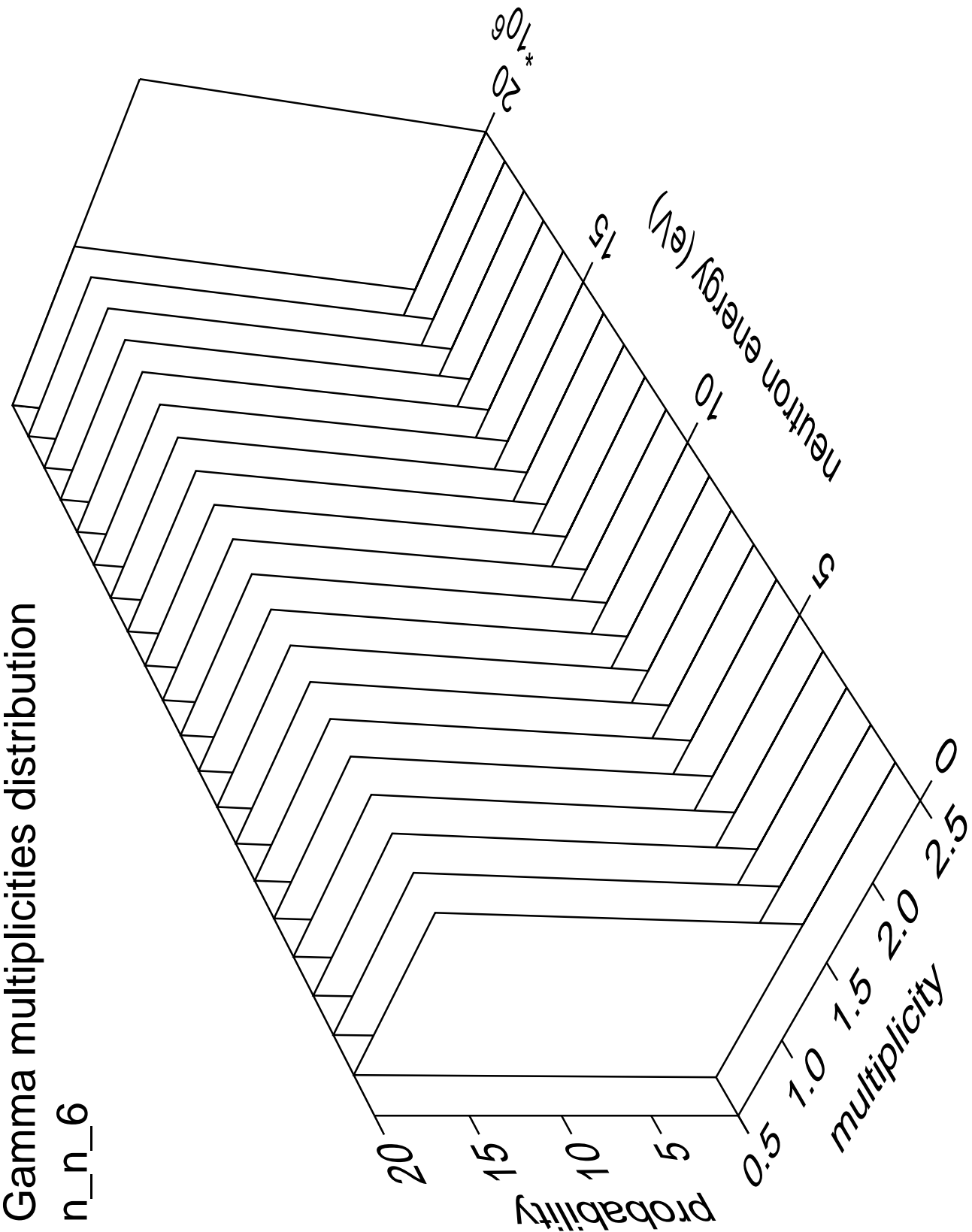neutron energy (eV)
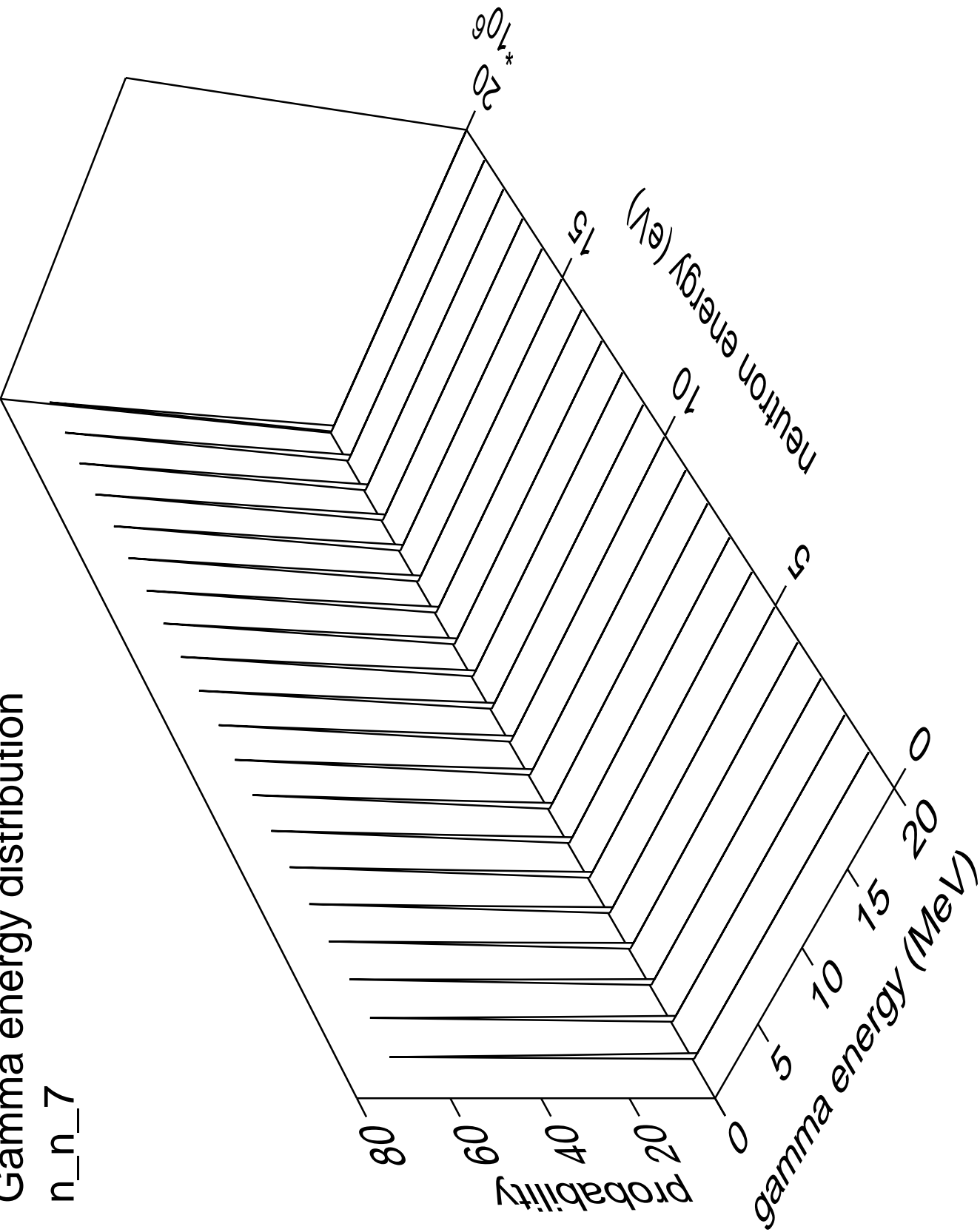
gamma energy (MeV)
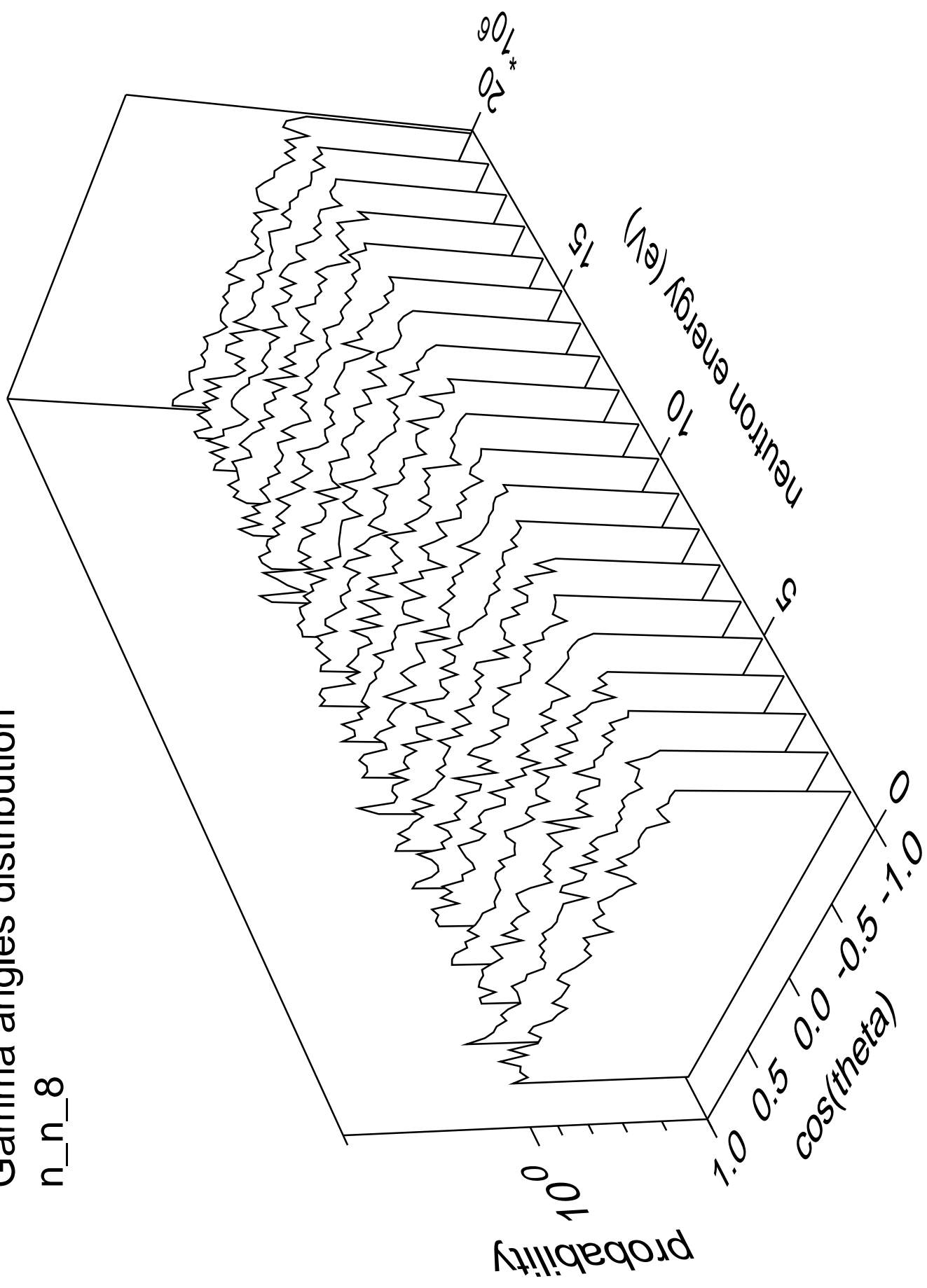
Gamma angles distribution
n_n_7

Gamma multiplicities distribution
n_n_7
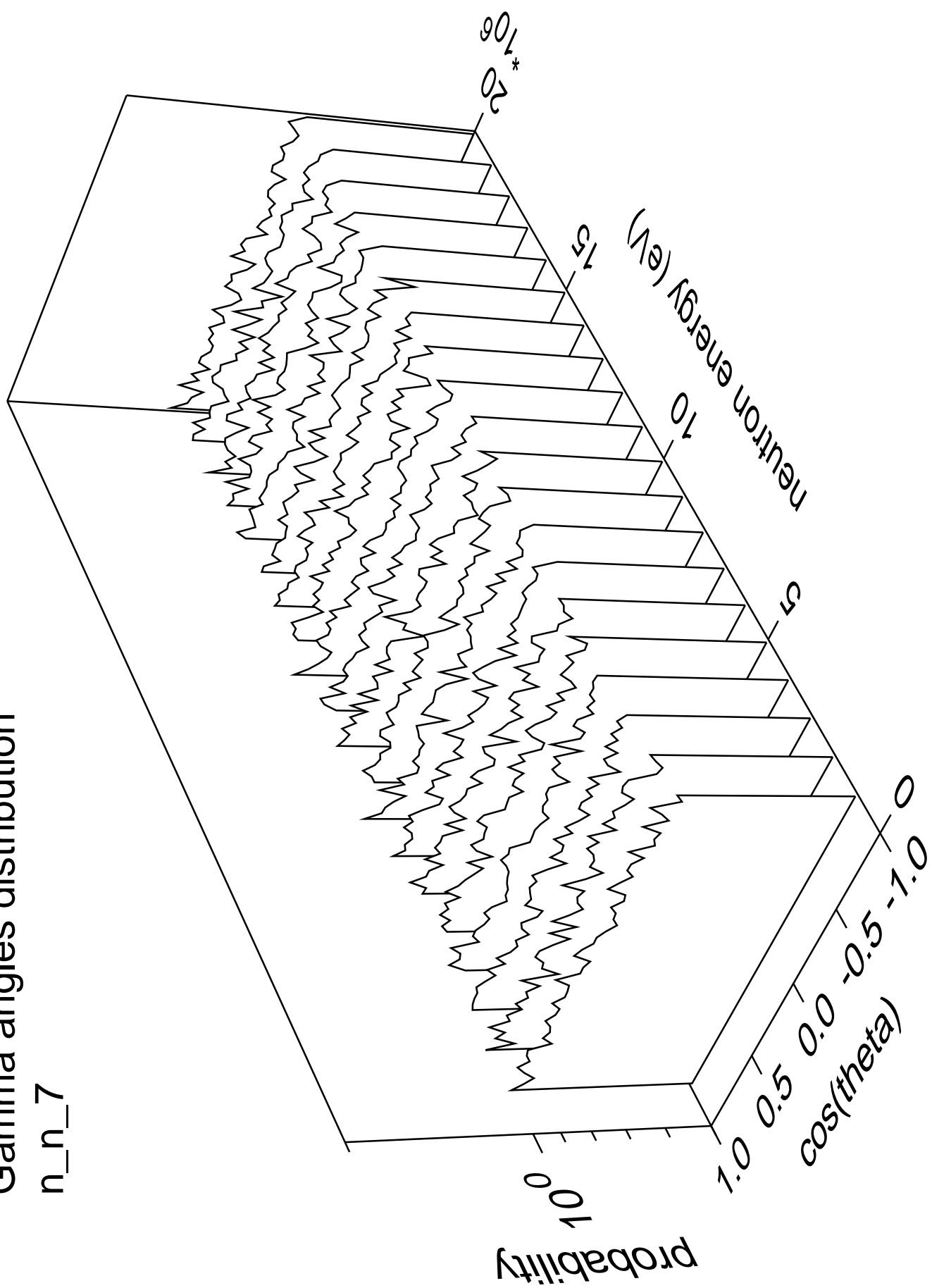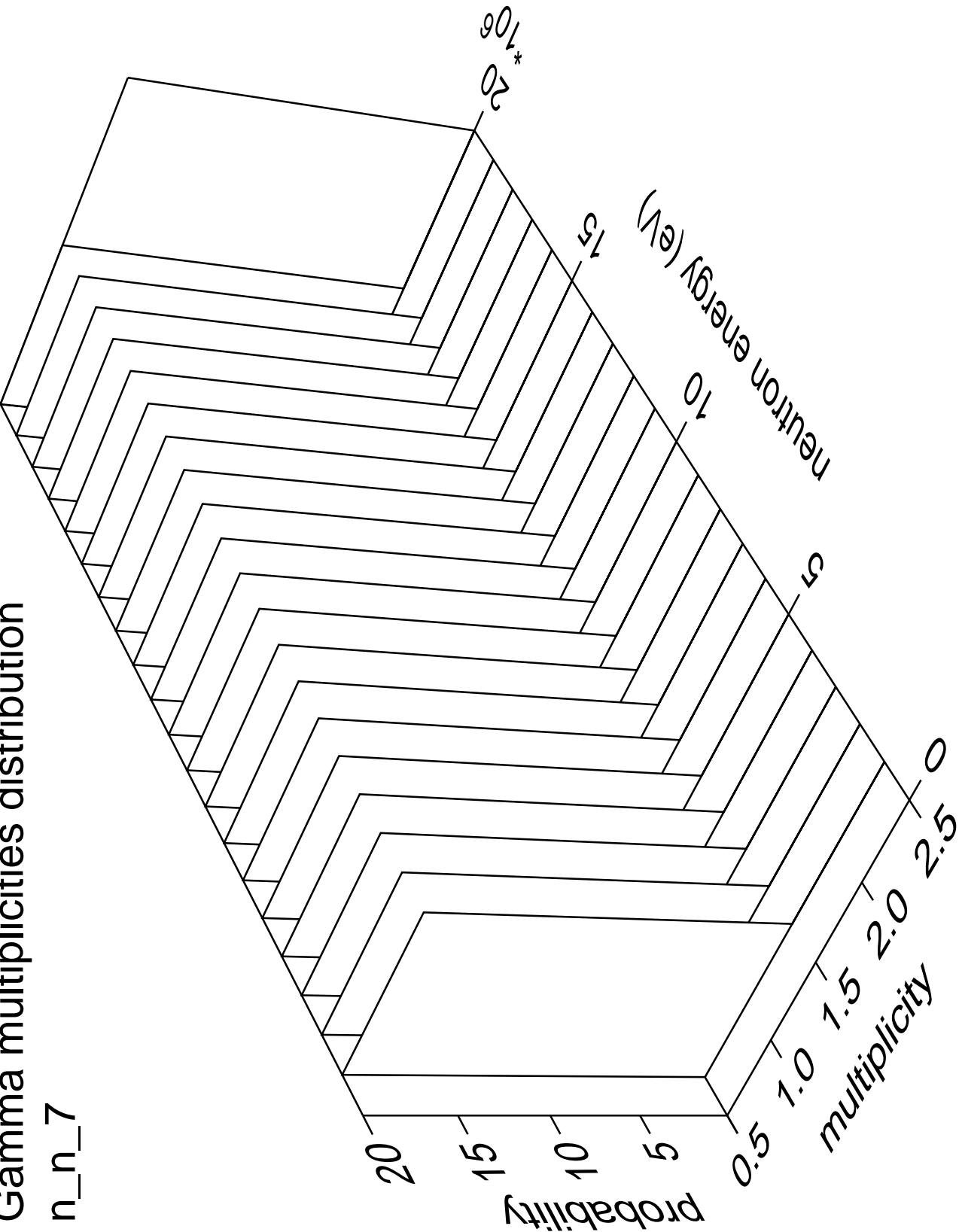
neutron energy (eV)

multiplicity

probability

Gamma energy distribution
n_n_8

probability

100 80 60 40 20 0

gamma energy (MeV)

5 10 15 20

neutron energy (eV)

5 10 15 20 *10⁶

Gamma angles distribution
n_n_8

neutron energy (eV)

cos(theta)

probability
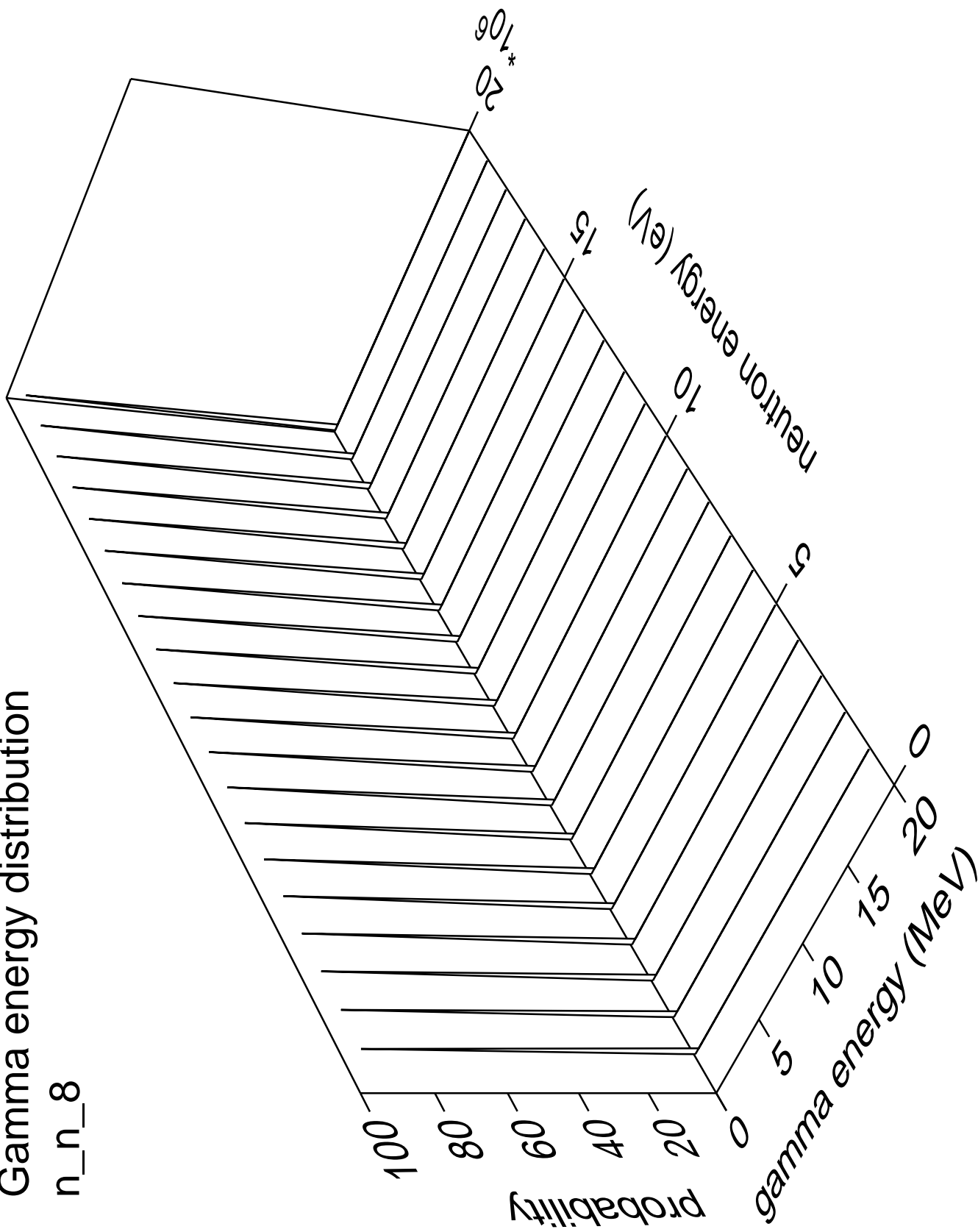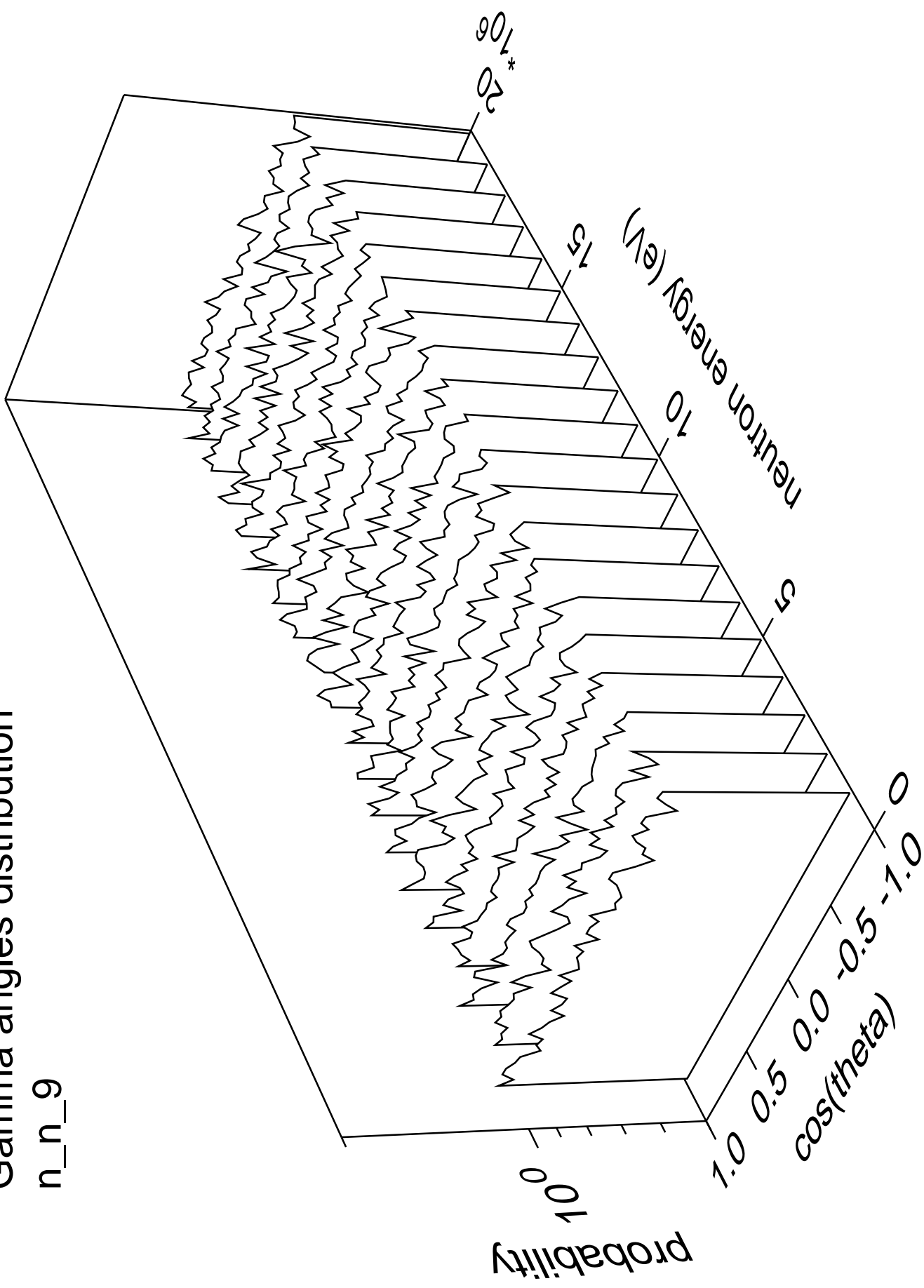
Gamma multiplicities distribution
n_n_8

Gamma energy distribution
n_n_9

probability

neutron energy (eV)

gamma energy (MeV)

20 *10⁶

15

10

5

0

60

40

20

0

5

10

15

20

Gamma angles distribution
n_n_9

neutron energy (eV)

cos(theta)

probability

20 *10⁶

15

10

5

0

1.0 0.5 0.0 -0.5 -1.0

10⁰
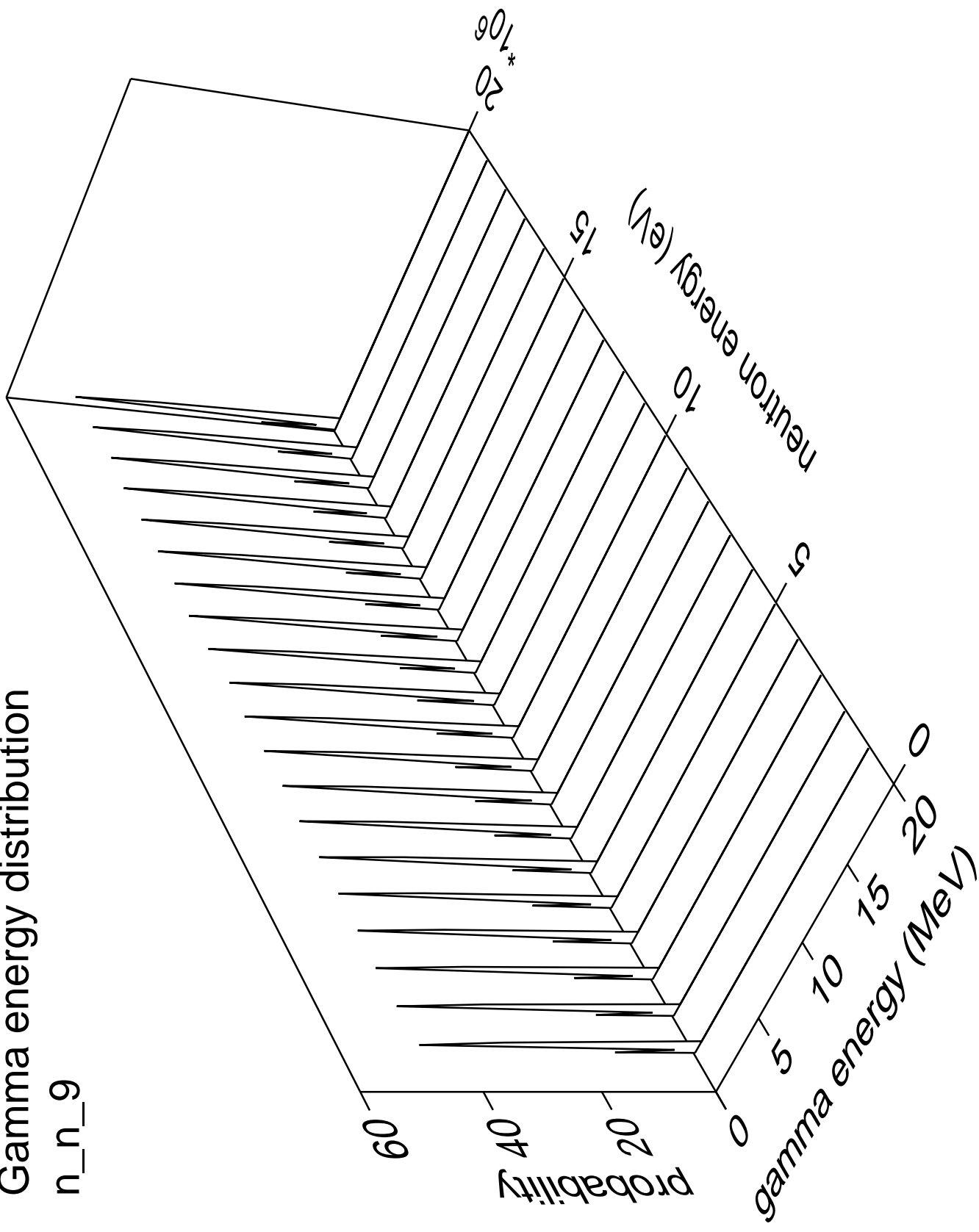
Gamma multiplicities distribution
n_n_9

Gamma energy distribution
n_n_10

probability

neutron energy (eV)

gamma energy (MeV)

20 *10⁶

15

10

5

60

40

20

0

5

10

15

20

0

Gamma angles distribution
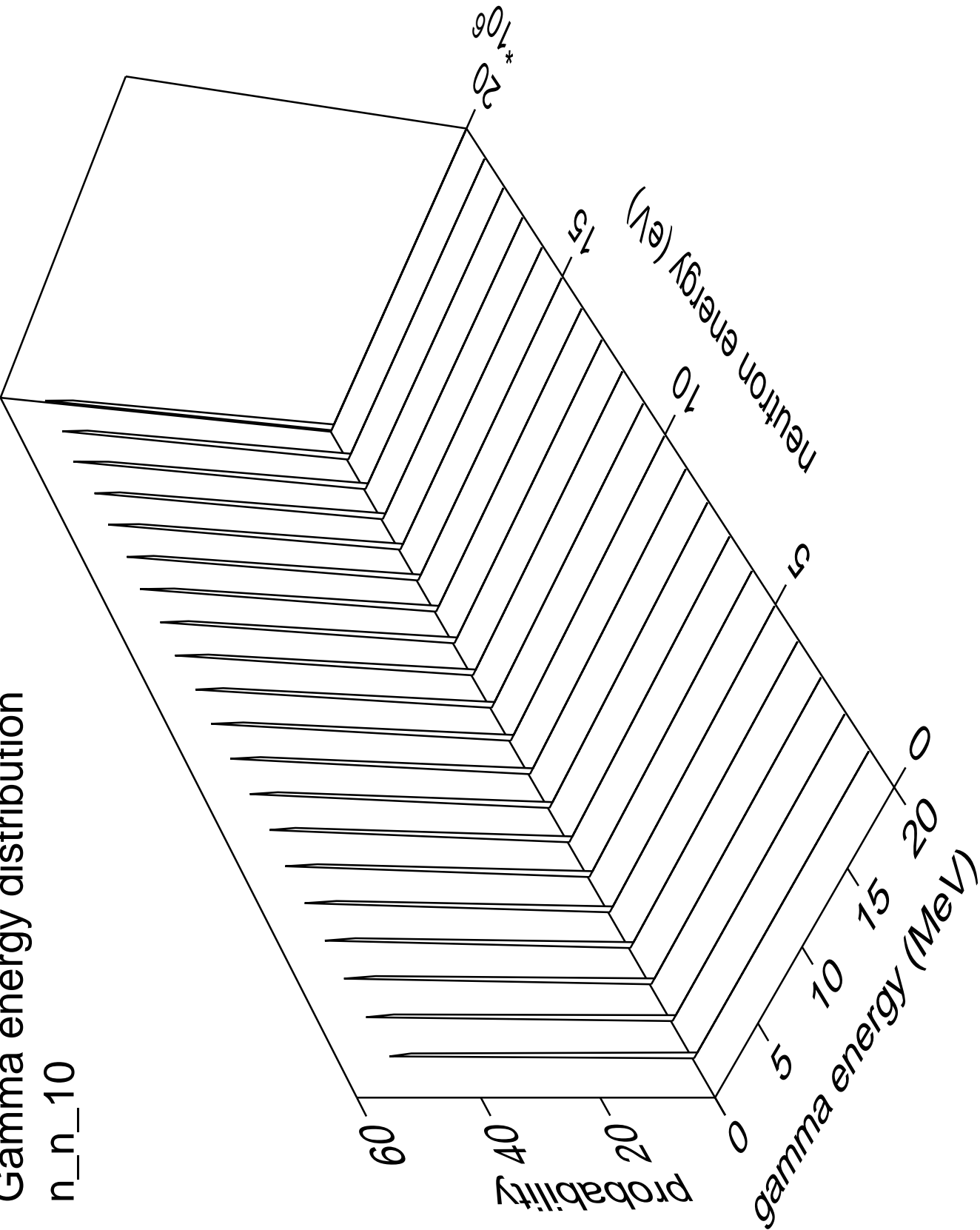n_n_10

neutron energy (eV)
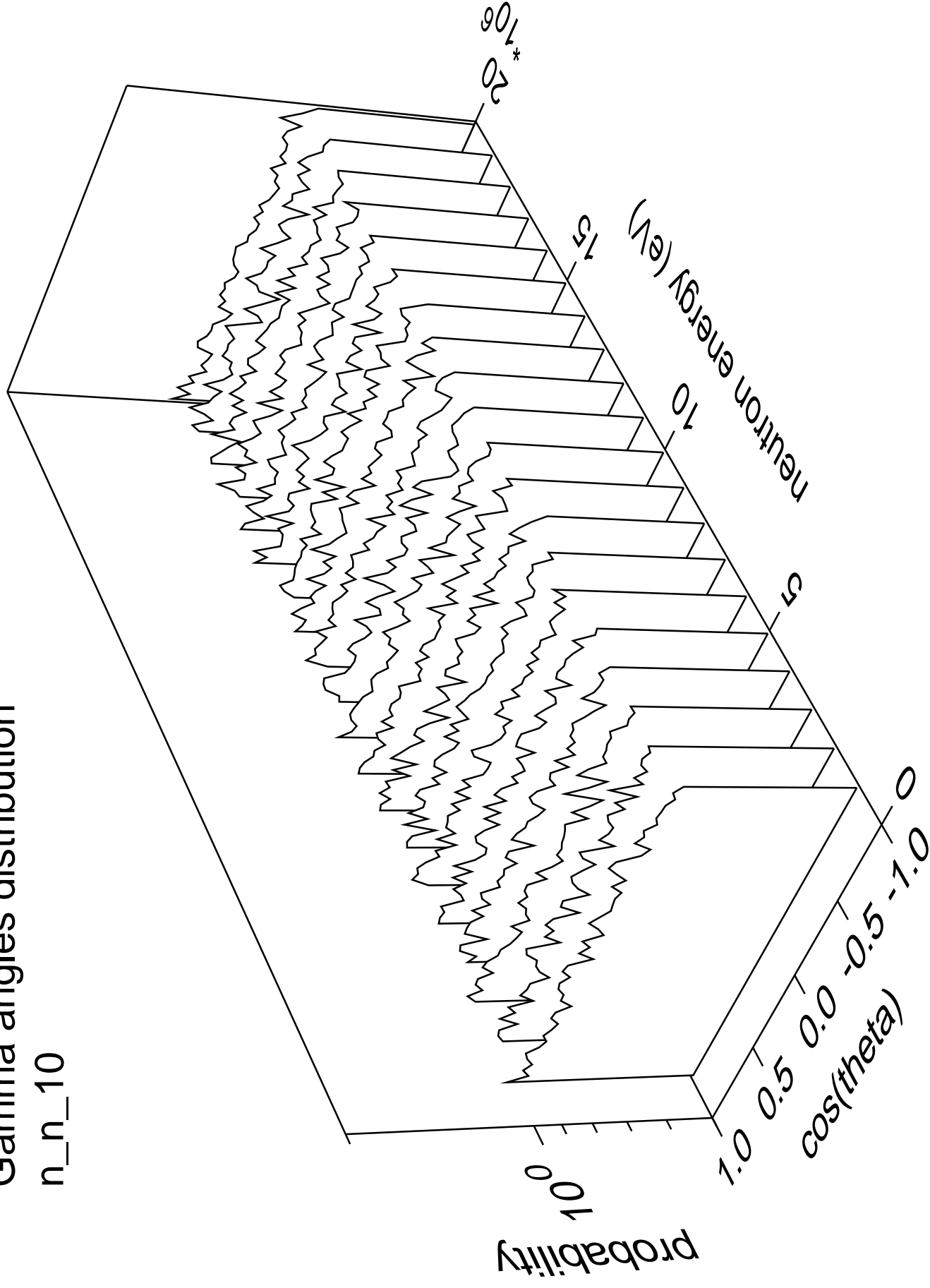
cos(theta)

probability
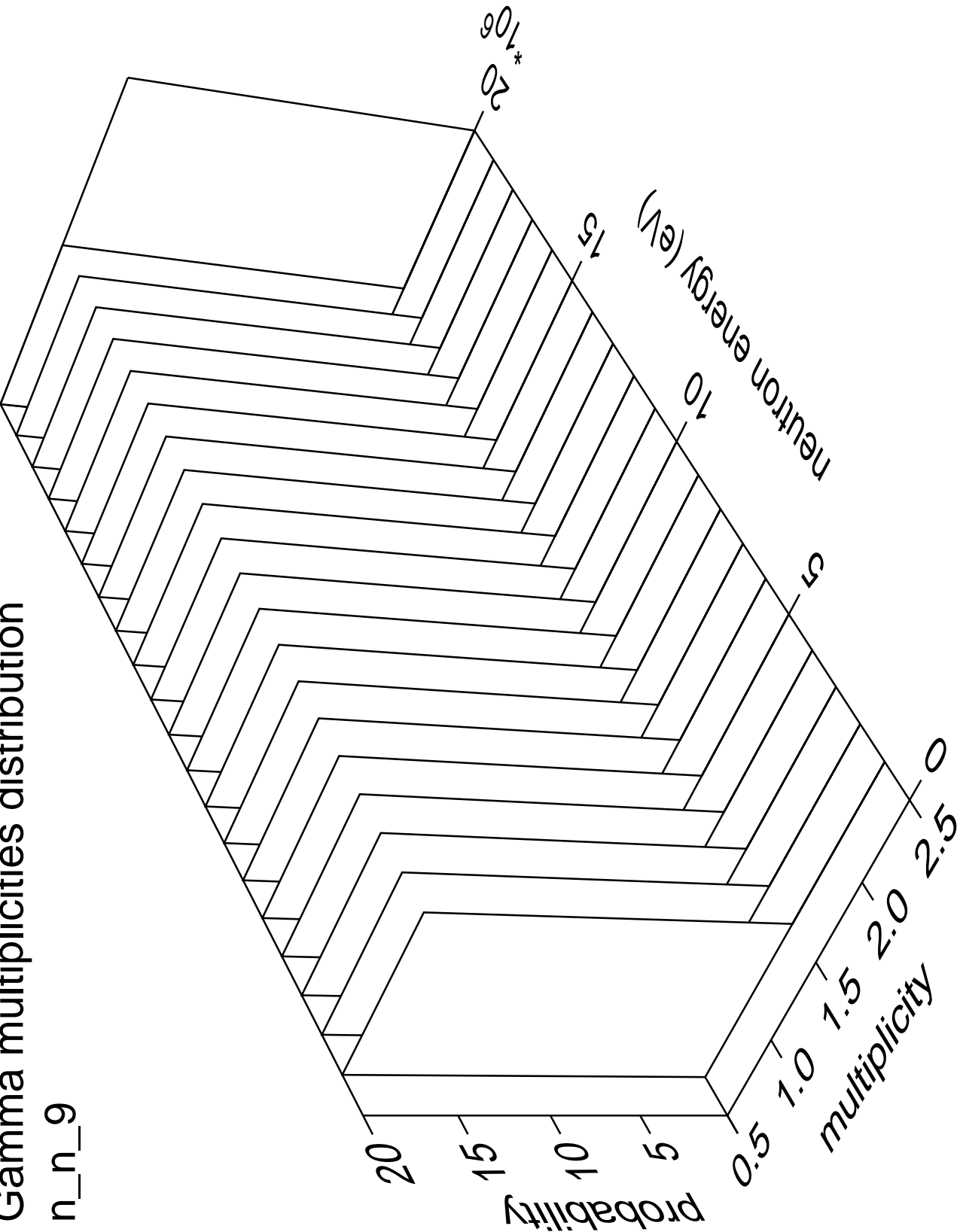
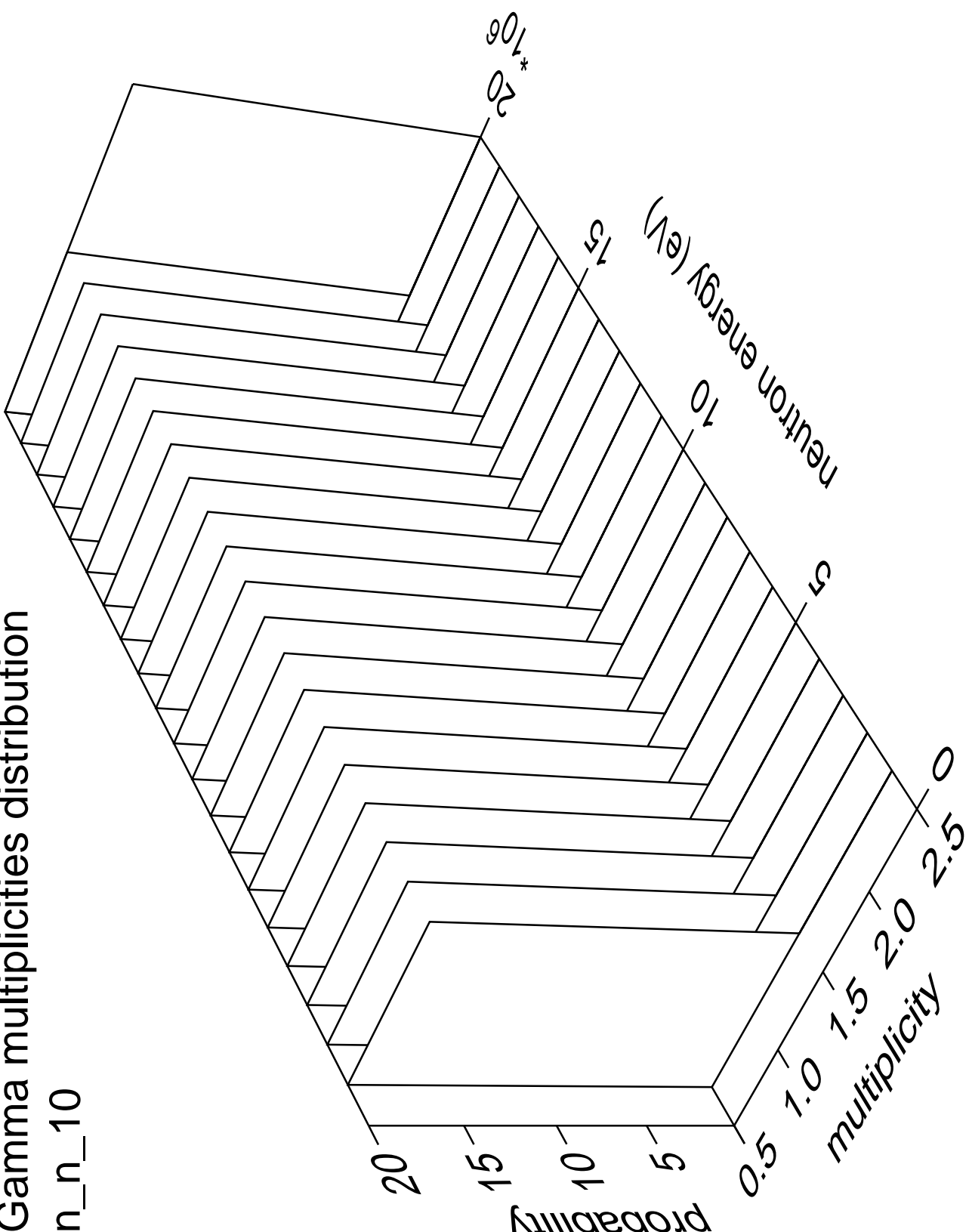Gamma multiplicities distribution
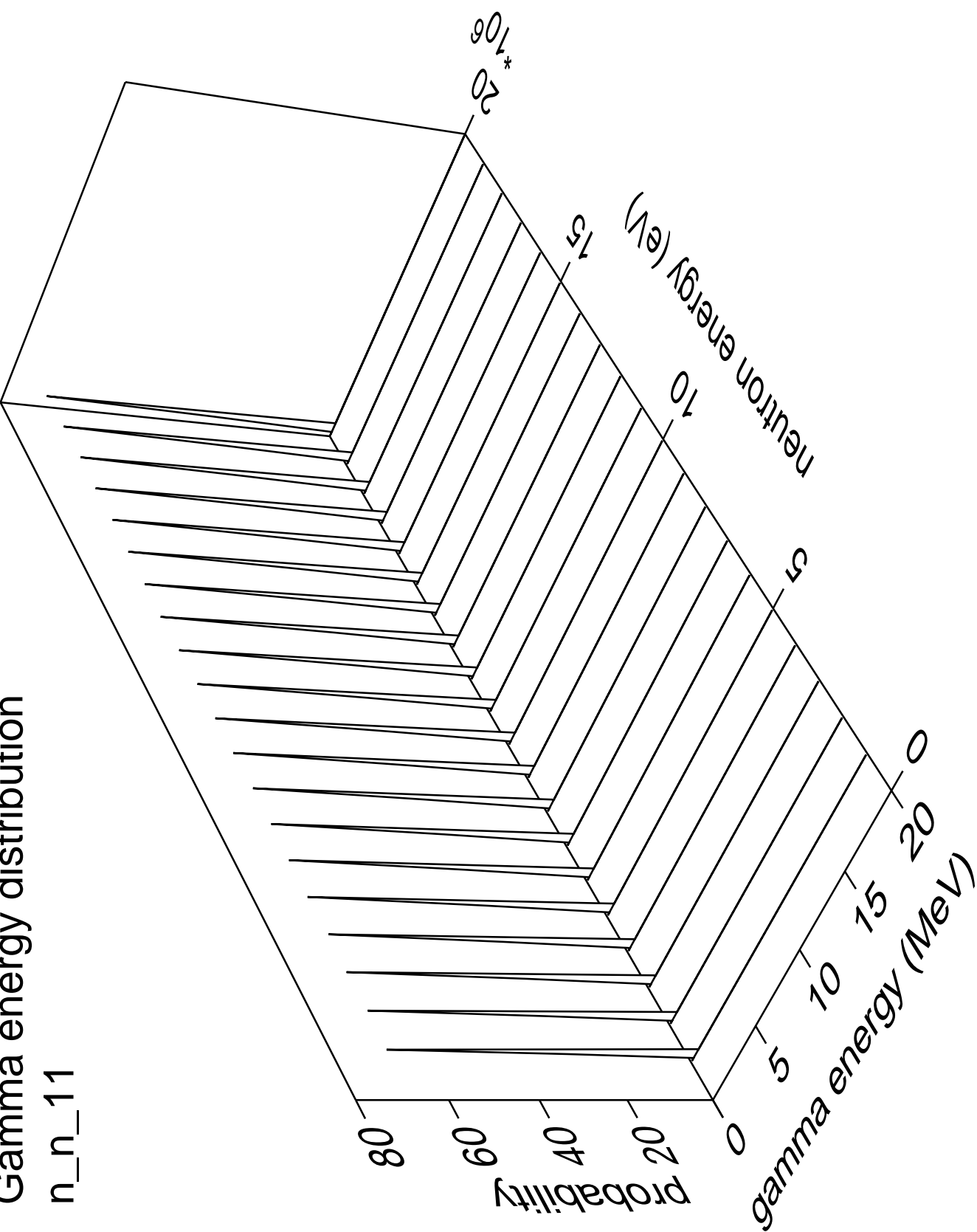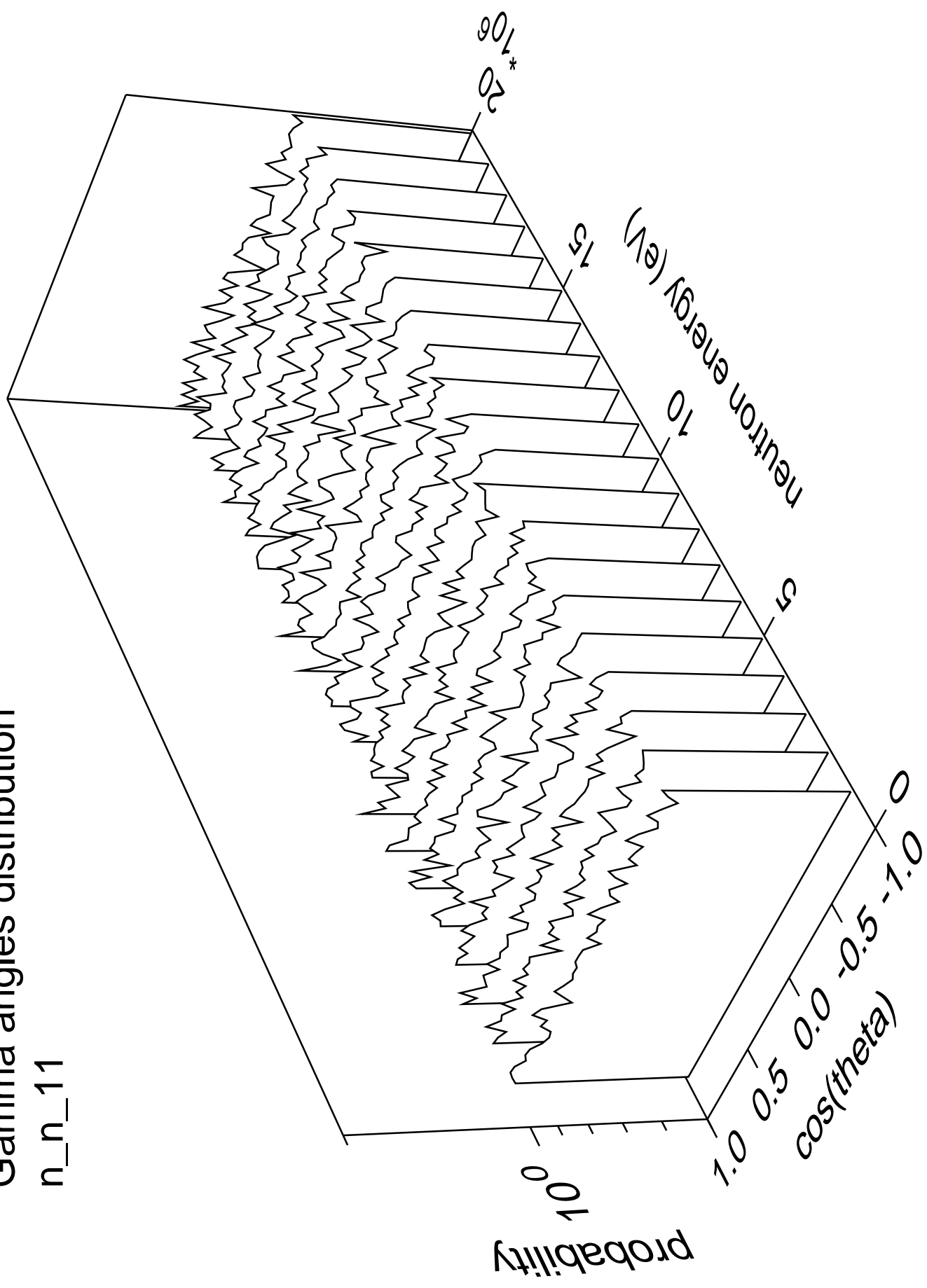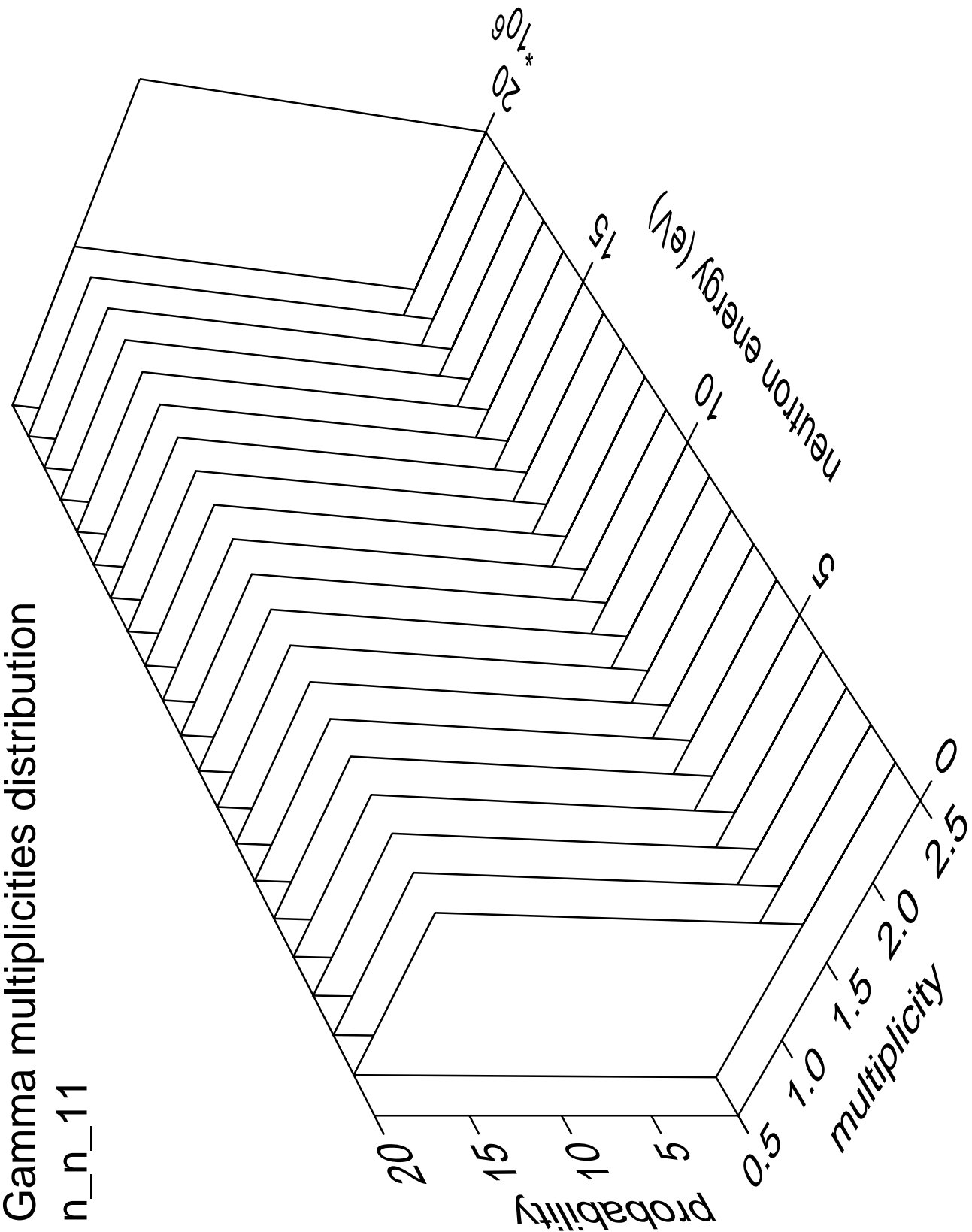n_n_10

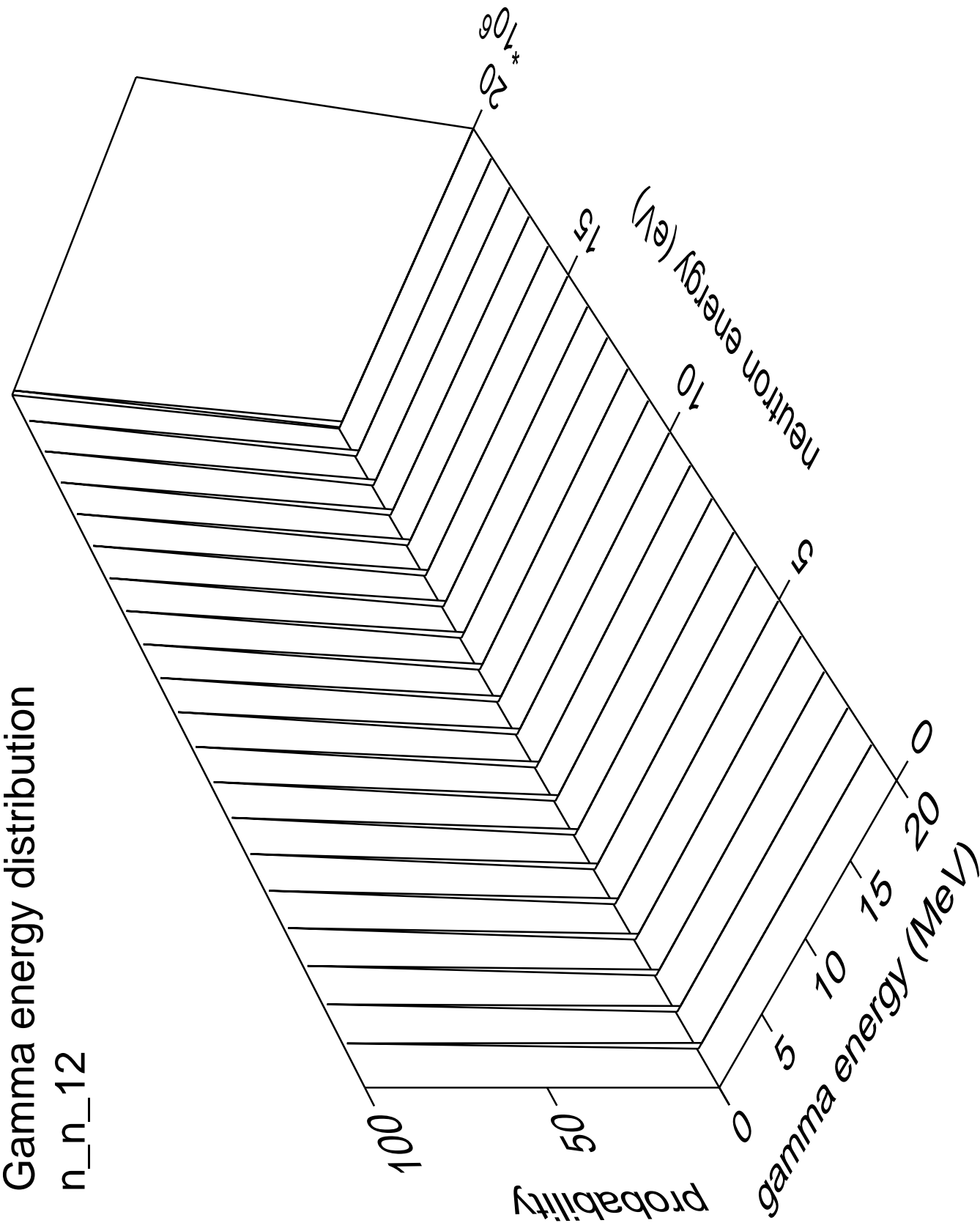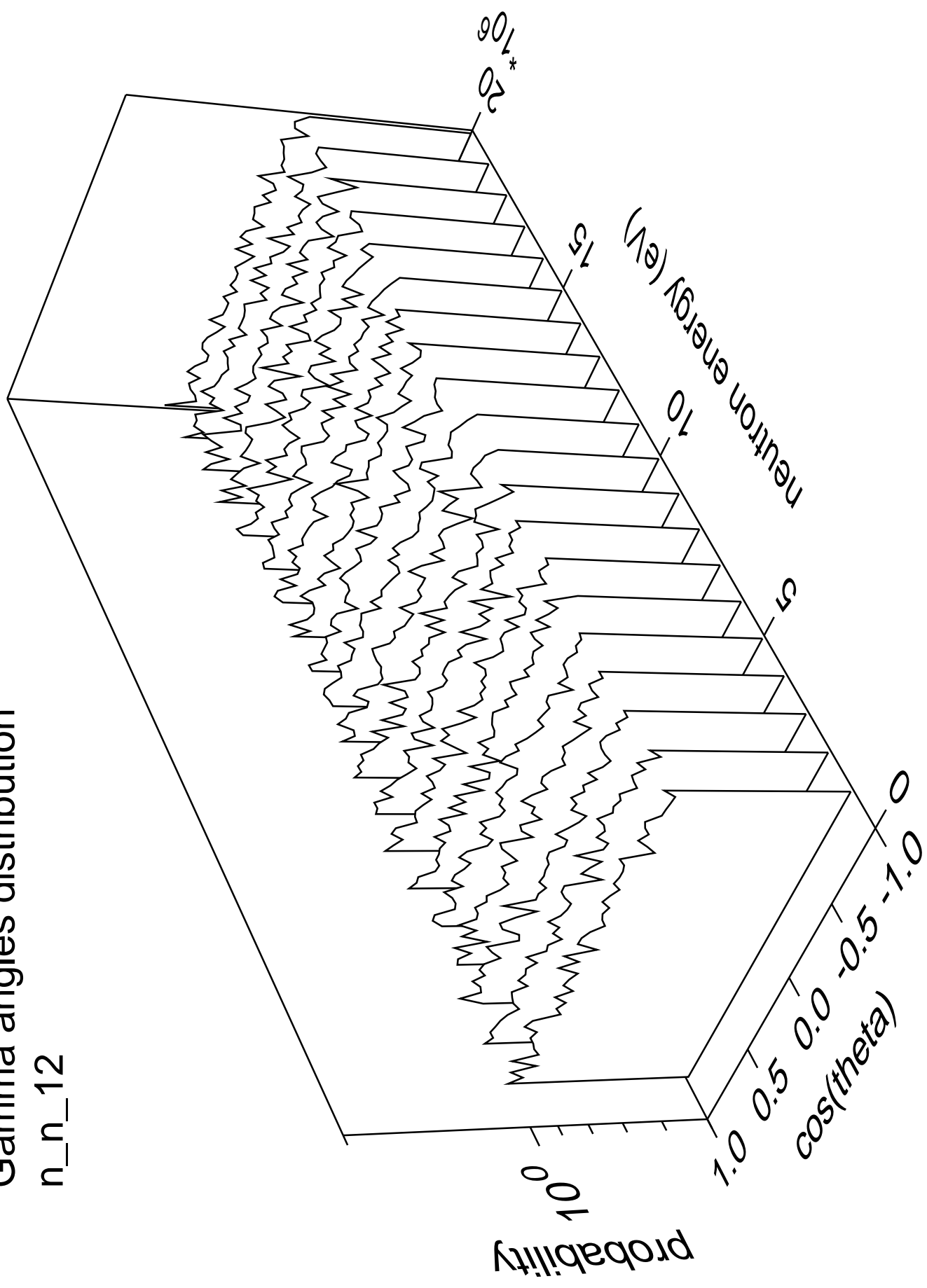Gamma energy distribution
n_n_11

Gamma angles distribution
n_n_11

Gamma multiplicities distribution
n_n_11

Gamma energy distribution
n_n_12

probability

neutron energy (eV)

gamma energy (MeV)

20 *10⁶

100

50

0

5

10

15

20

0

5

10

15

20
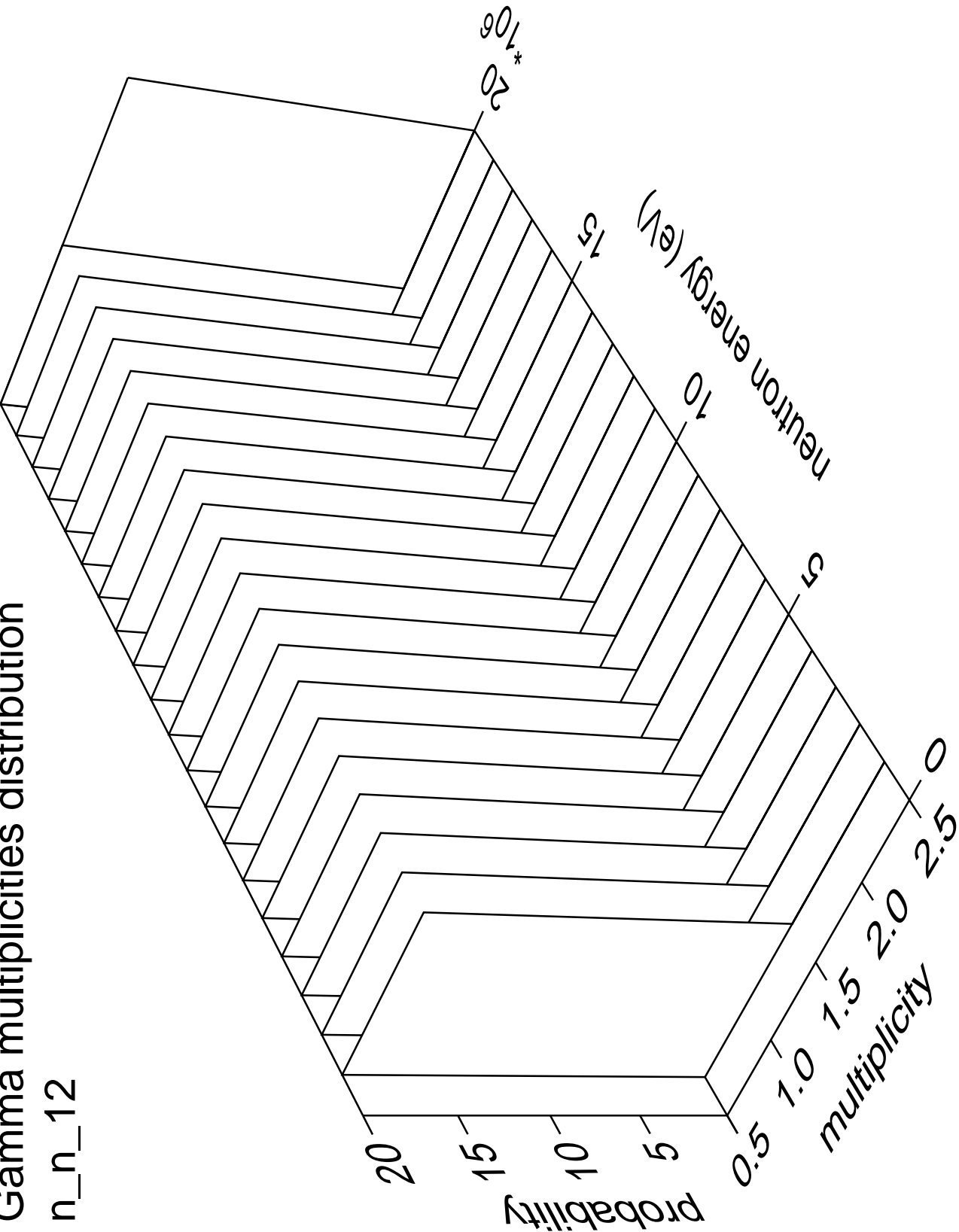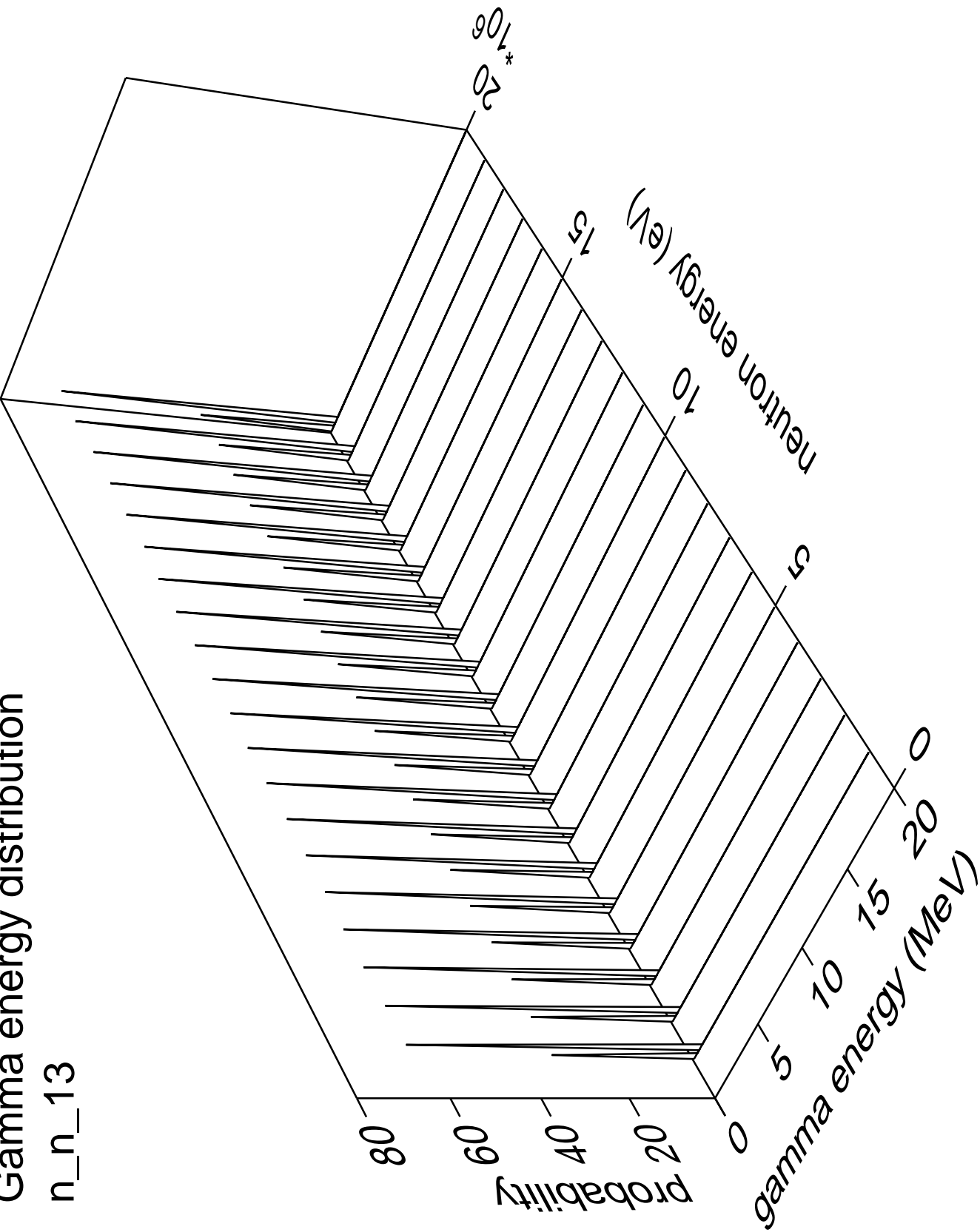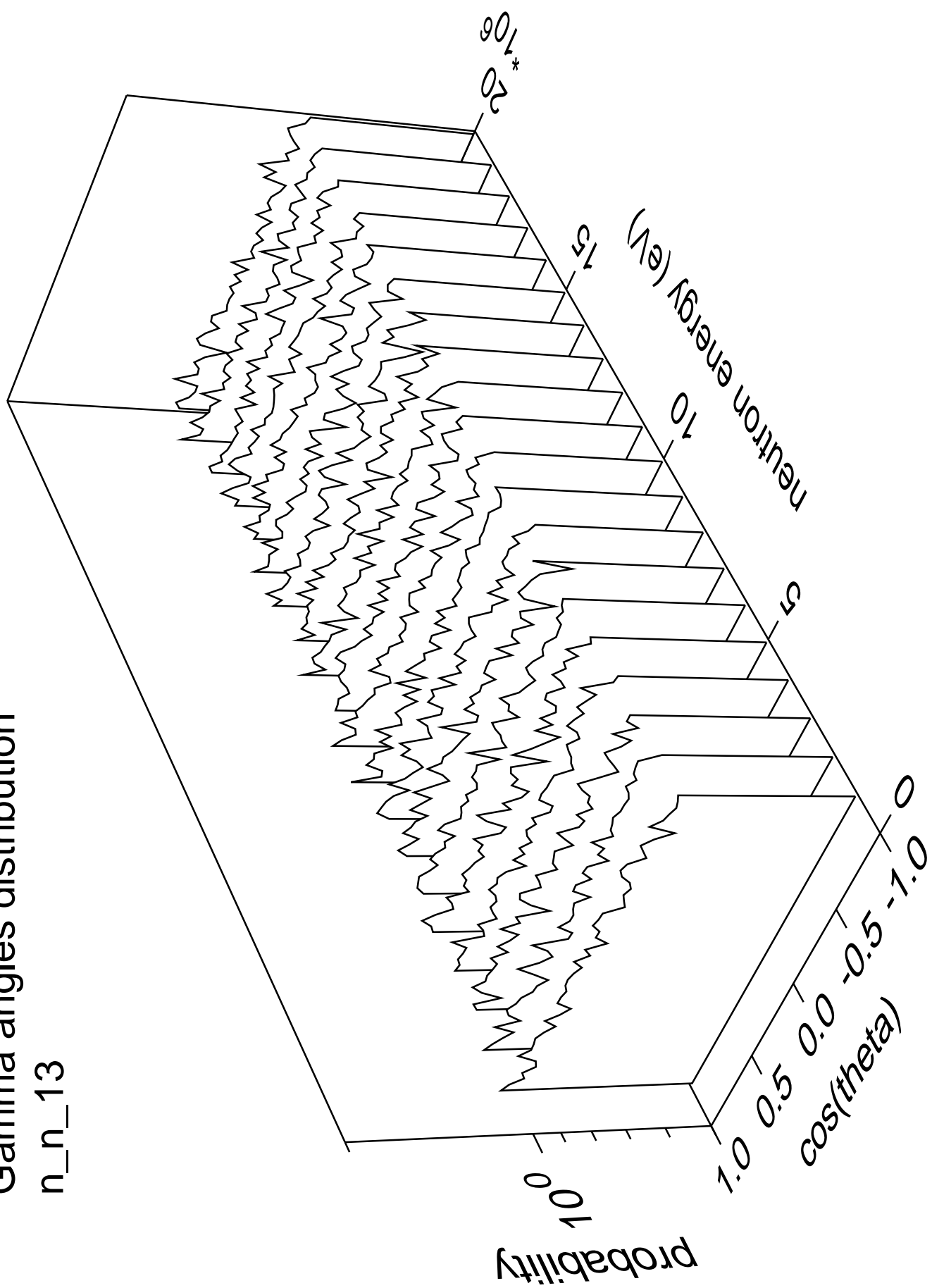
Gamma angles distribution
n_n_12

Gamma multiplicities distribution
n_n_12

Gamma energy distribution
n_n_13

probability

neutron energy (eV)

gamma energy (MeV)

20 *10⁶

15

10

5

80

60

40

20

0

5

10

15

20

0

Gamma angles distribution
n_n_13

probability

neutron energy (ev)

cos(theta)
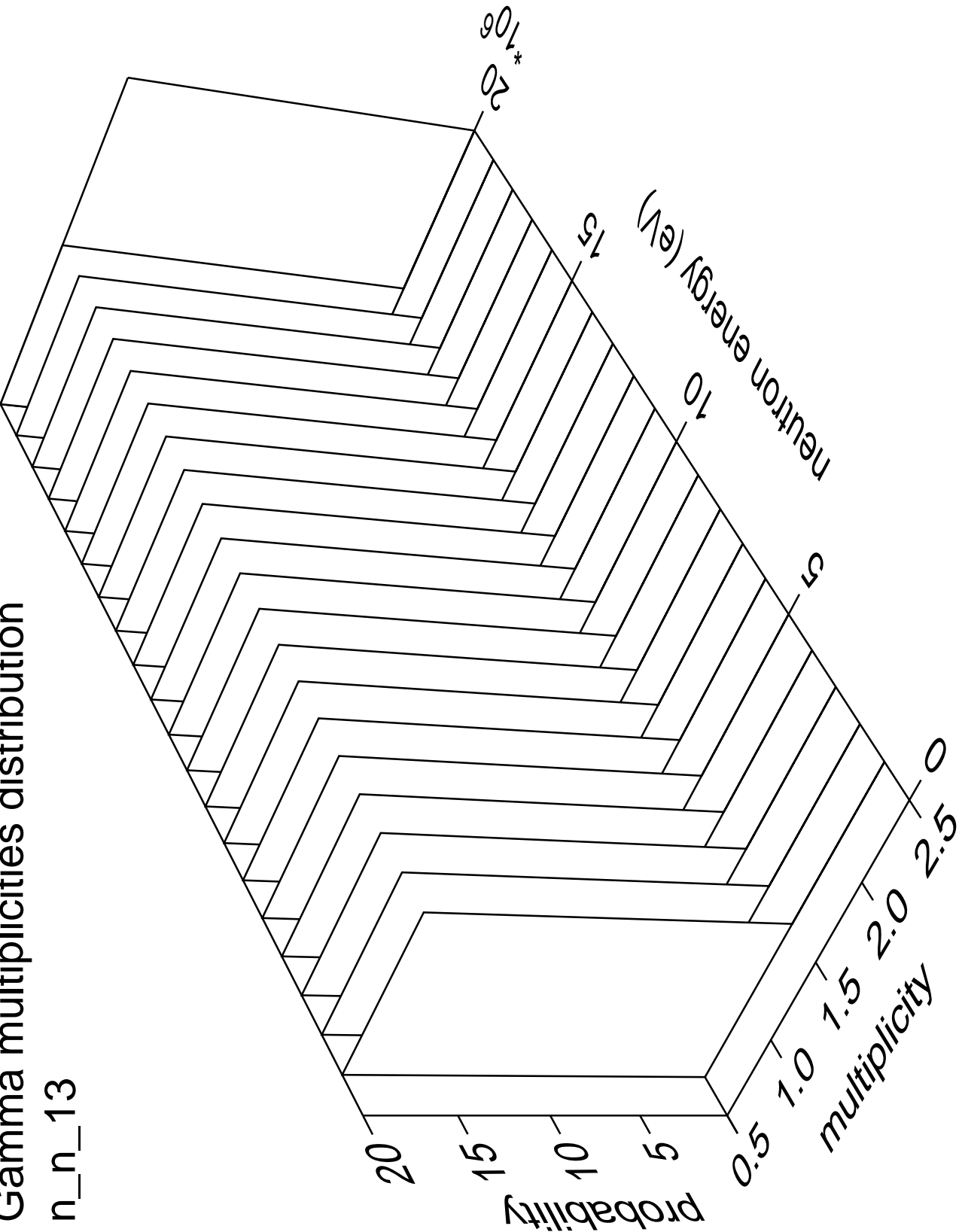
Gamma multiplicities distribution
n_n_13

Gamma energy distribution
n_n_14

neutron energy (eV)

gamma energy (MeV)

probability

20

15

10

5

0

60

40

20

0

5

10

15

20

20 *10⁶

Gamma angles distribution
n_n_14

probability

neutron energy (eV)

cos(theta)
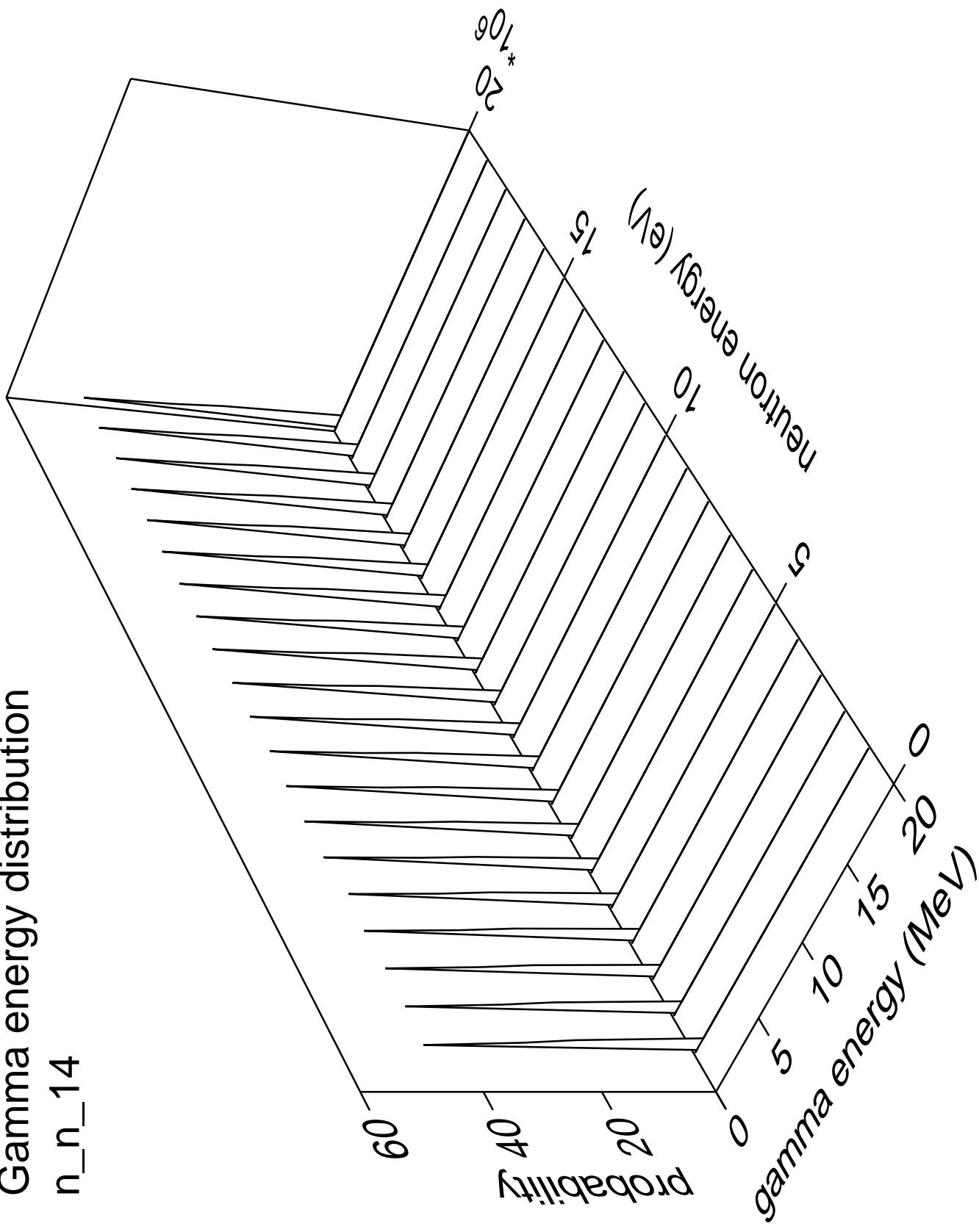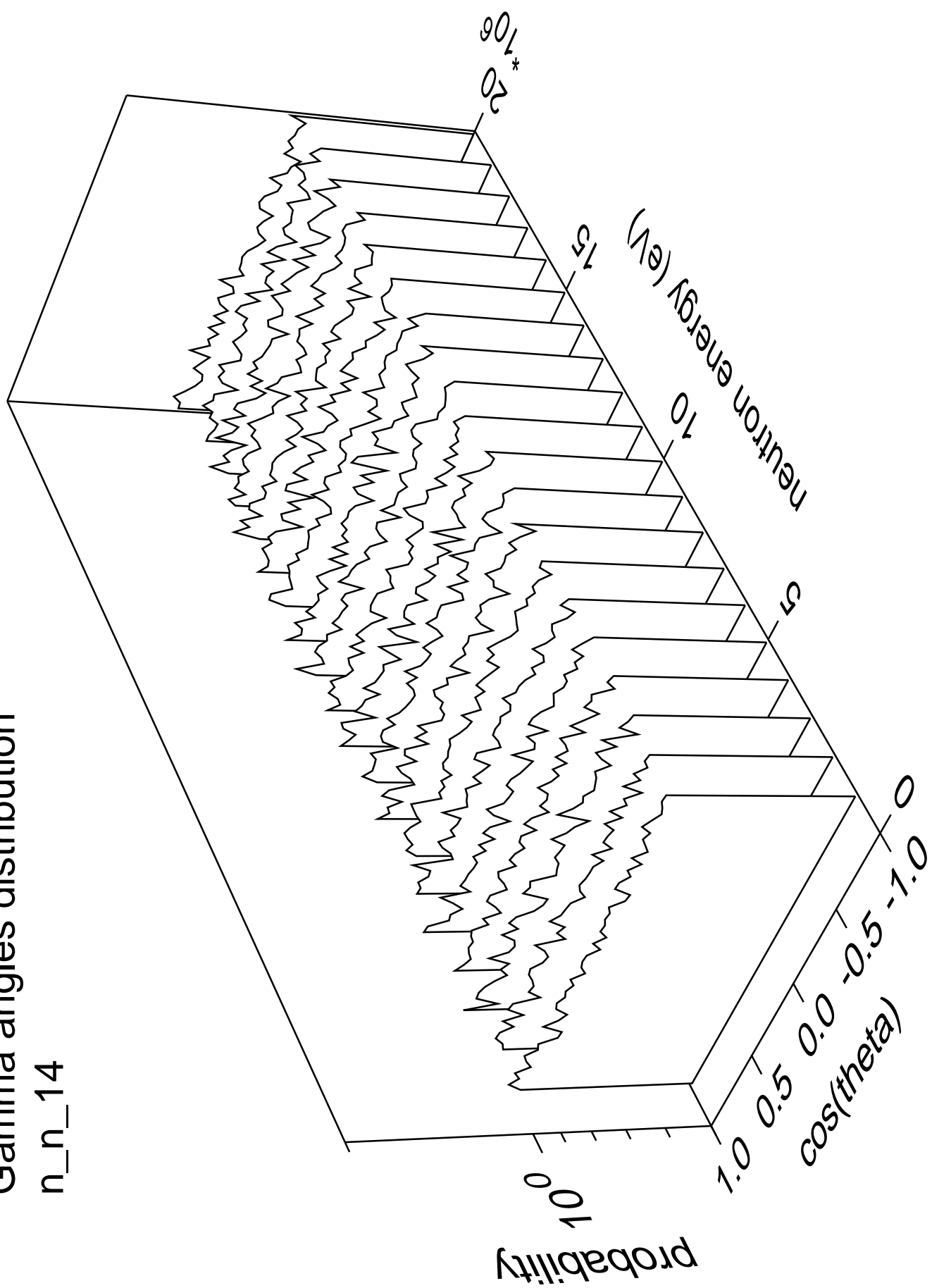
Gamma multiplicities distribution
n_n_14

Gamma energy distribution
n_n_15

probability

neutron energy (eV)

gamma energy (MeV)

20 *10⁶

Gamma angles distribution
n_n_15

probability

cos(theta)

neutron energy (eV)

*10⁶

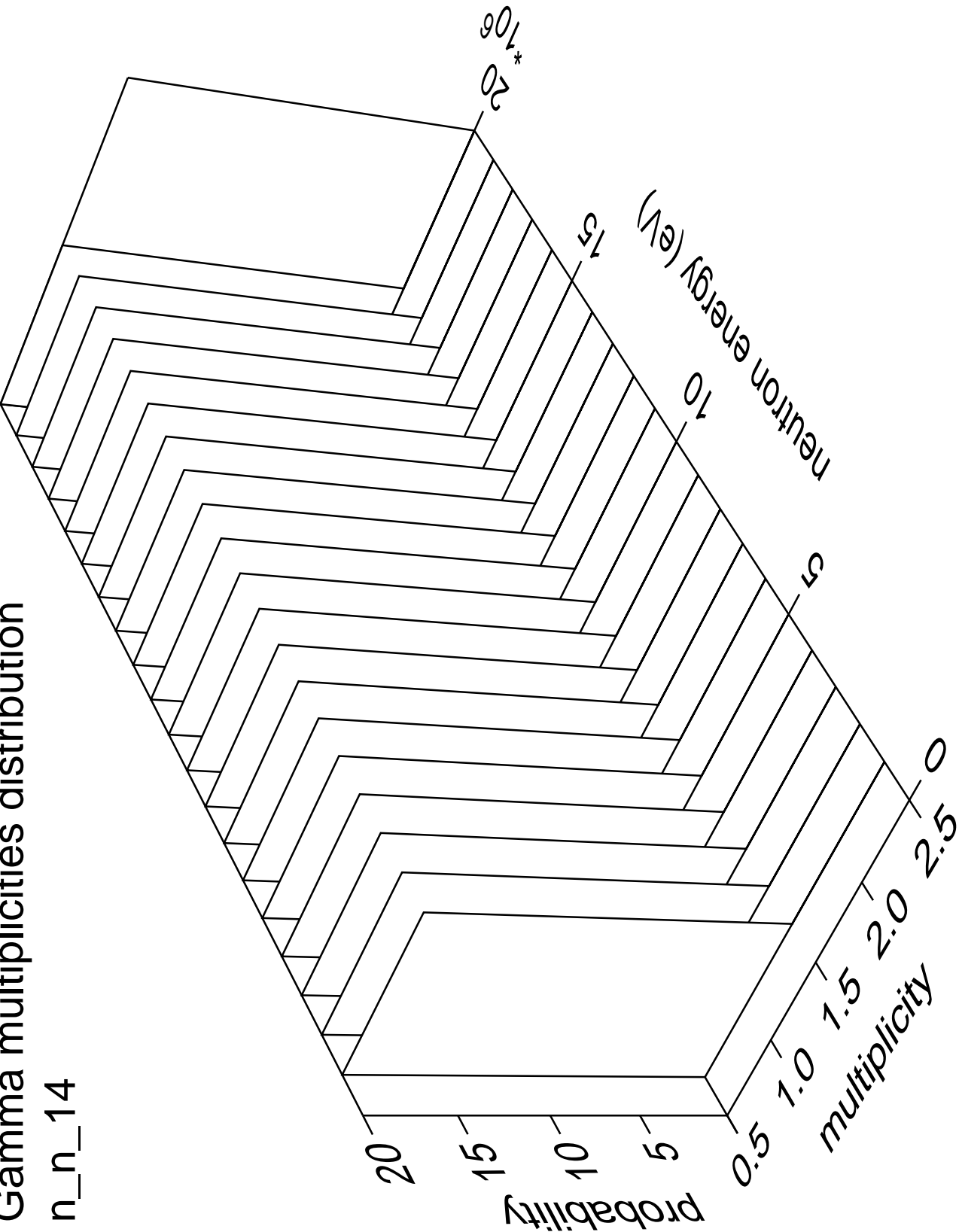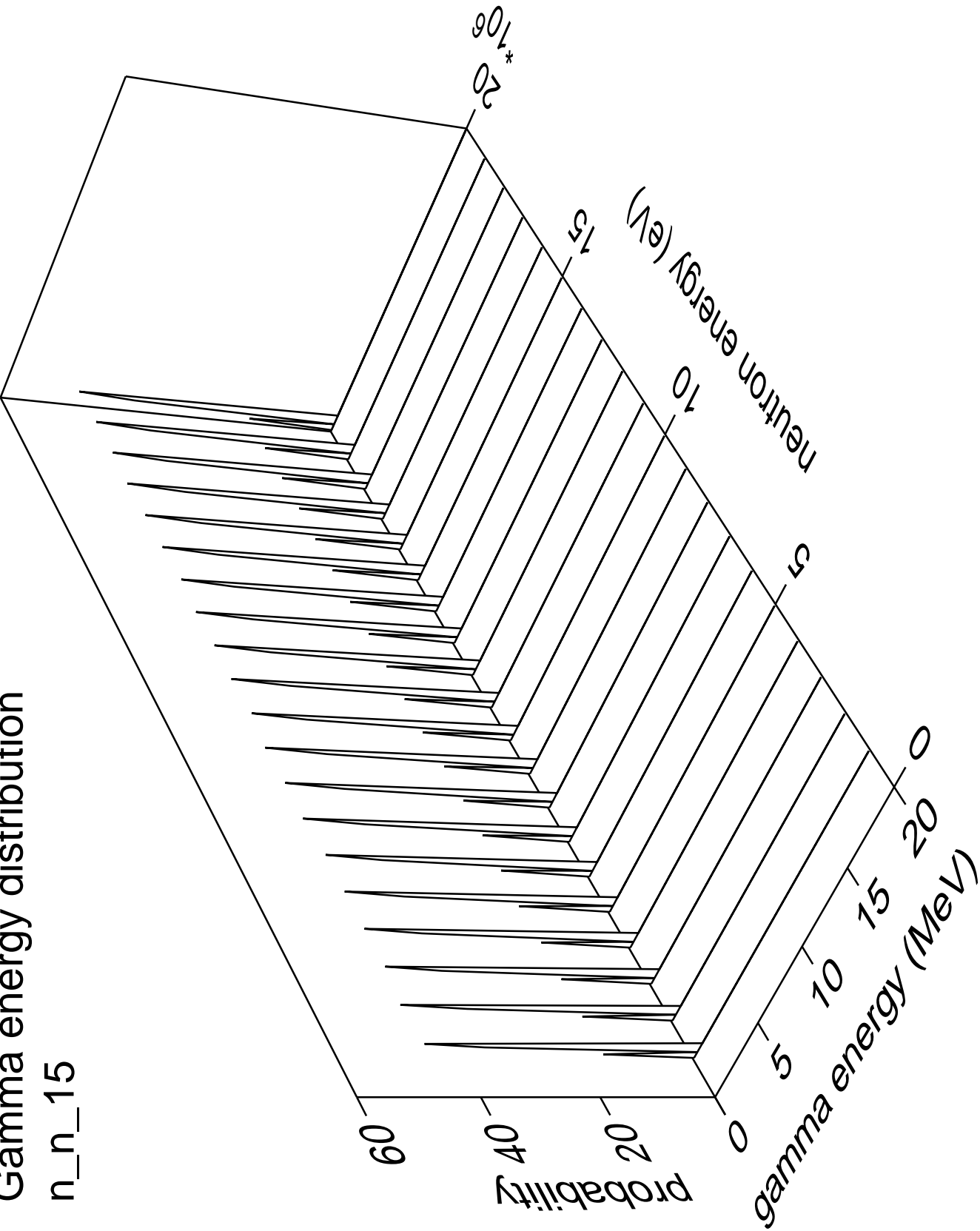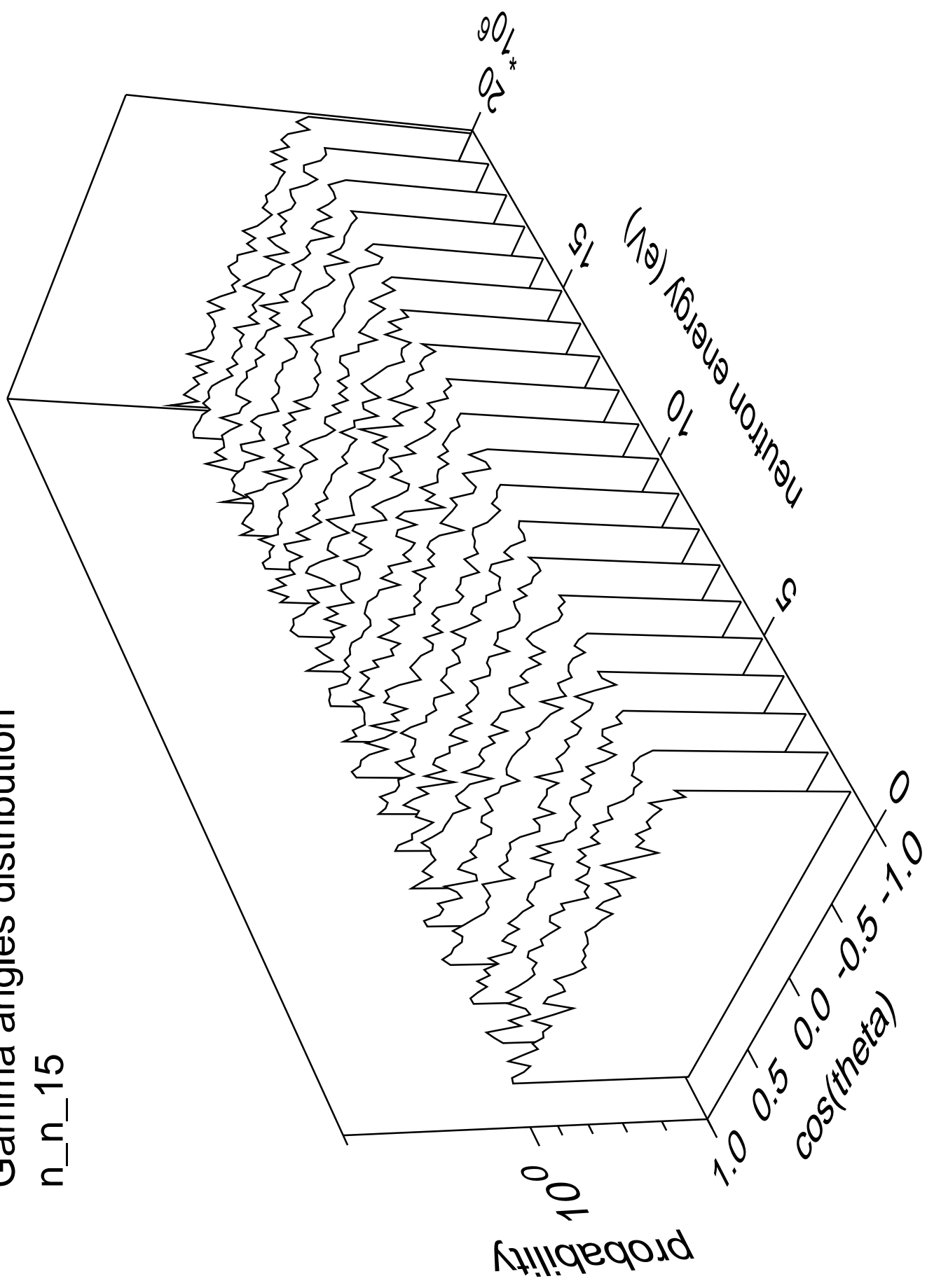Gamma multiplicities distribution
n_n_15

Gamma energy distribution
n_n_16

probability

neutron energy (eV)

gamma energy (MeV)

20 *10⁶

15

10

5

0

5   10   15   20

0

80

60

40

20

0

Gamma angles distribution
n_n_16

probability

neutron energy (eV)

cos(theta)

20 *10⁶

15

10

5

0

1.0 0.5 0.0 -0.5 -1.0
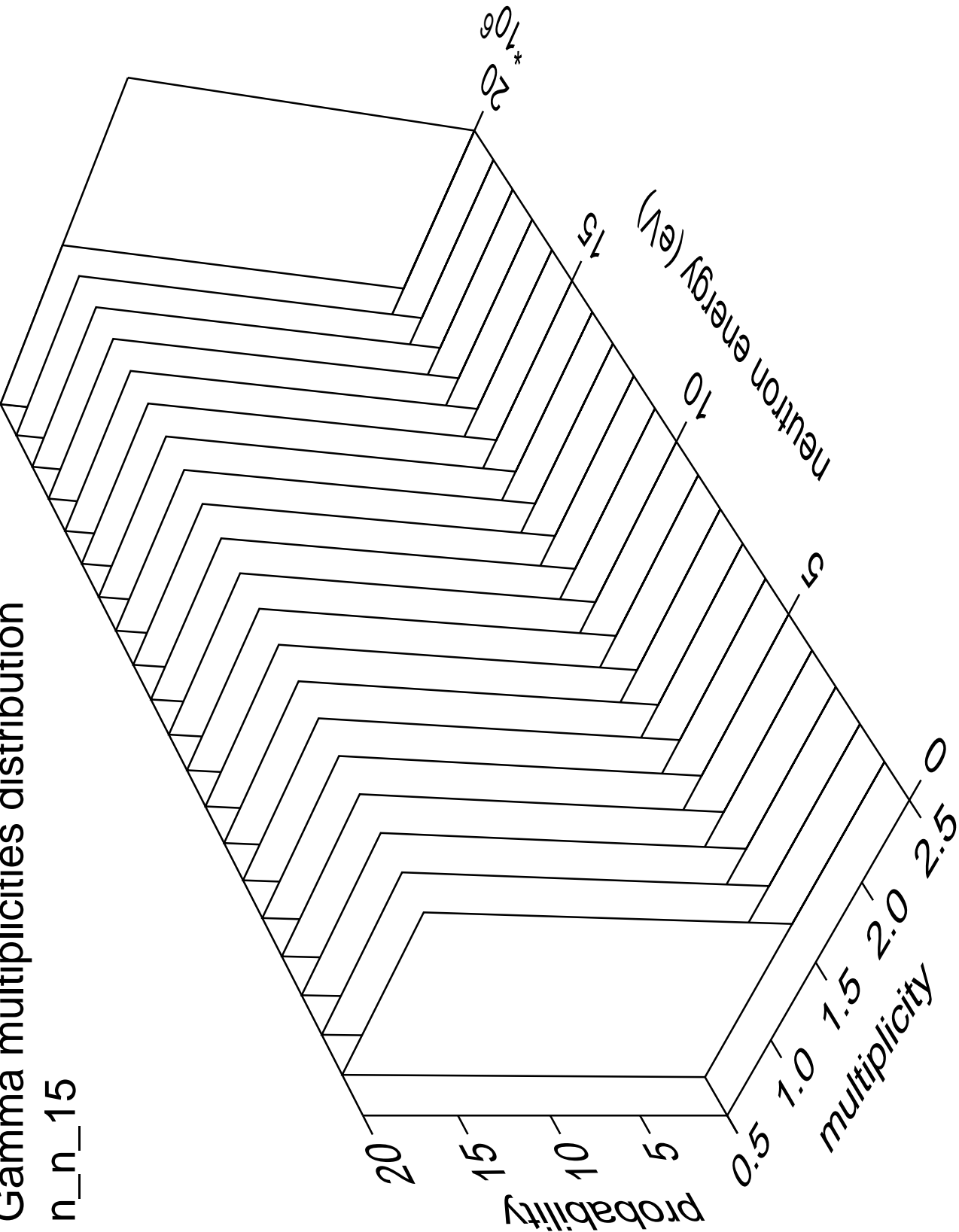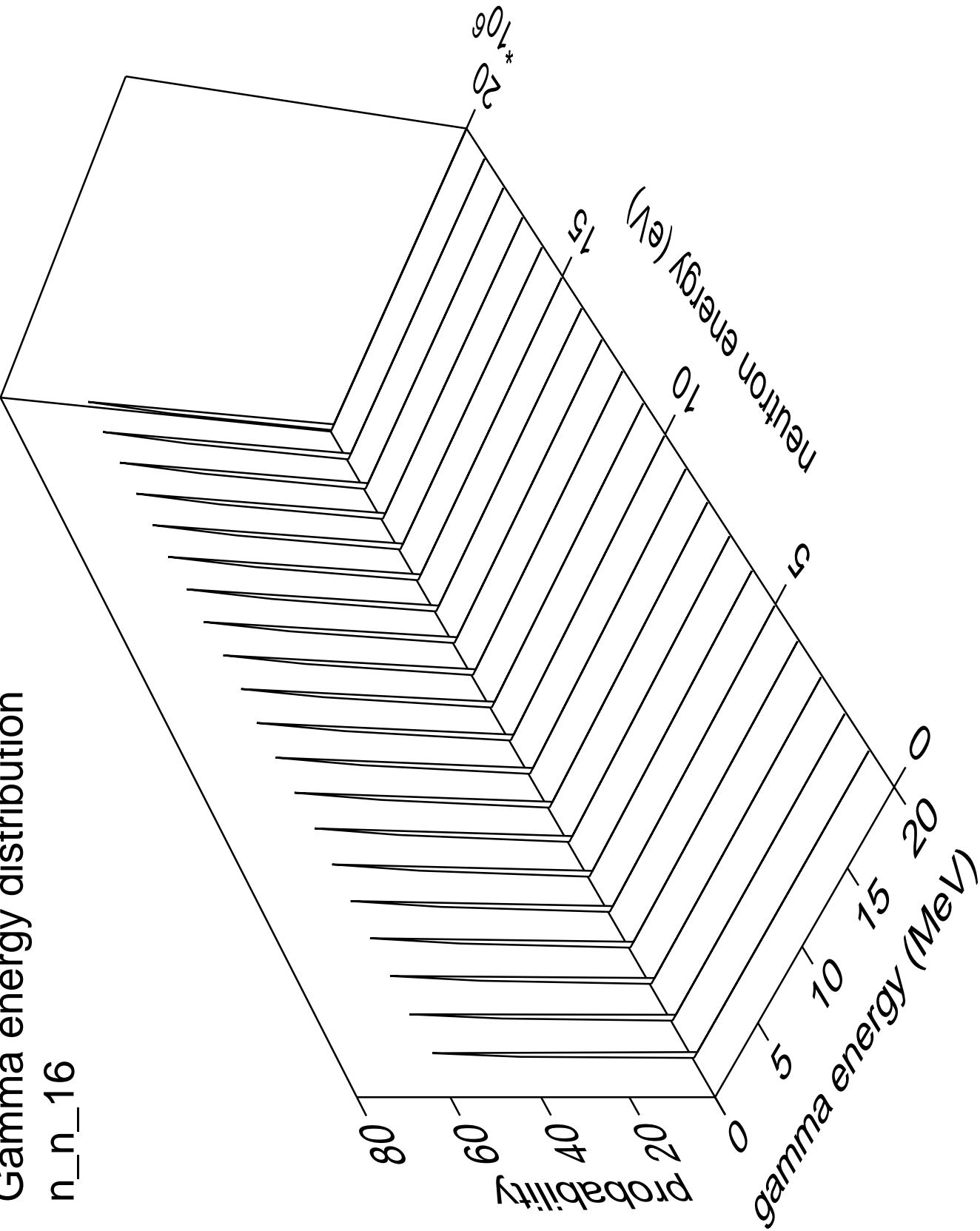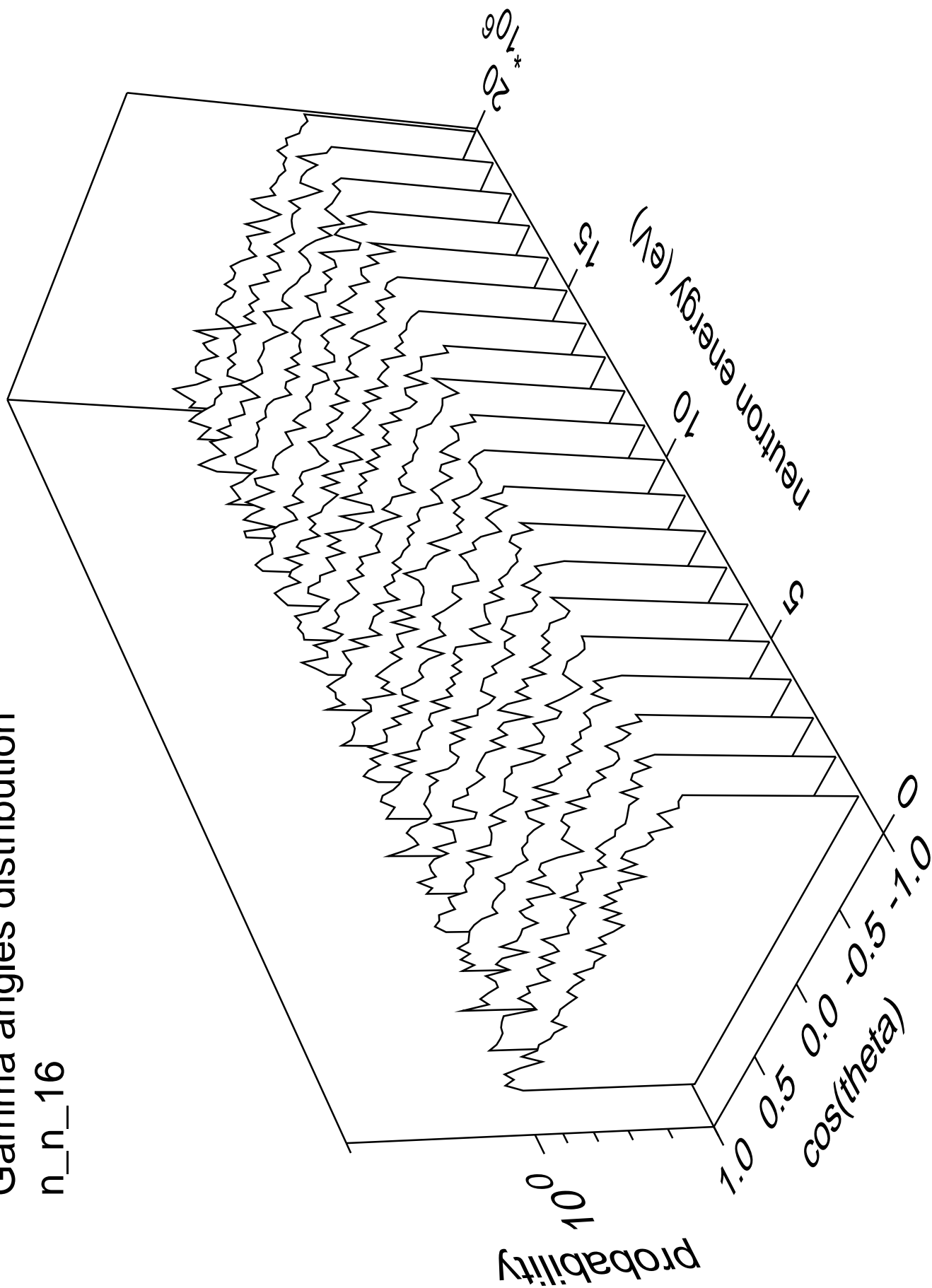
Gamma multiplicities distribution
n_n_16

Gamma energy distribution
n_n_cont
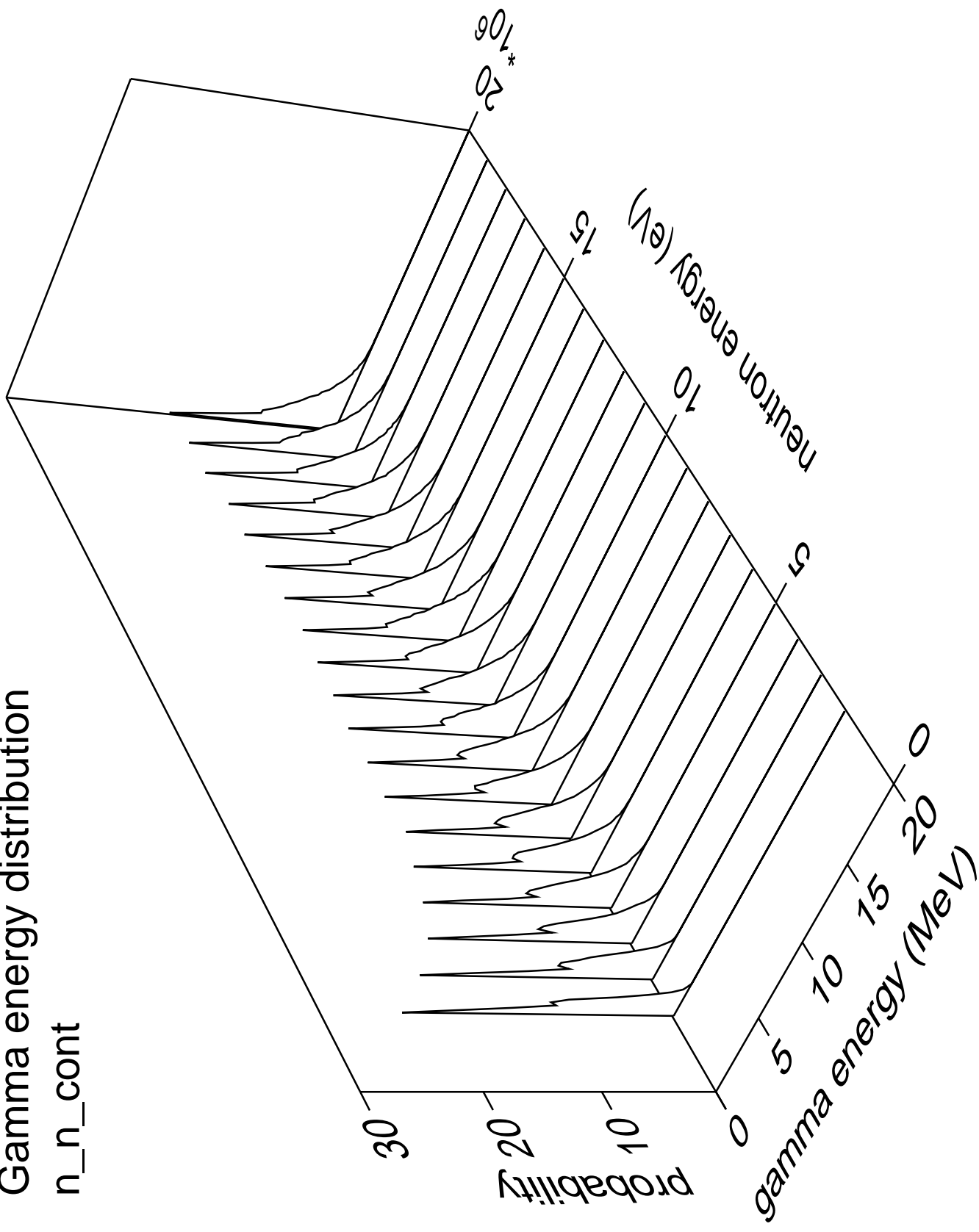
probability

gamma energy (MeV)

neutron energy (eV)

20 *10⁶

15

10

5

0

20

15

10

5

0

30

20

10

Gamma angles distribution
n_n_cont

neutron energy (eV)

cos(theta)

probability

$*10^6$

Gamma multiplicities distribution
n_n_cont

multiplicity

neutron energy (eV)

probability
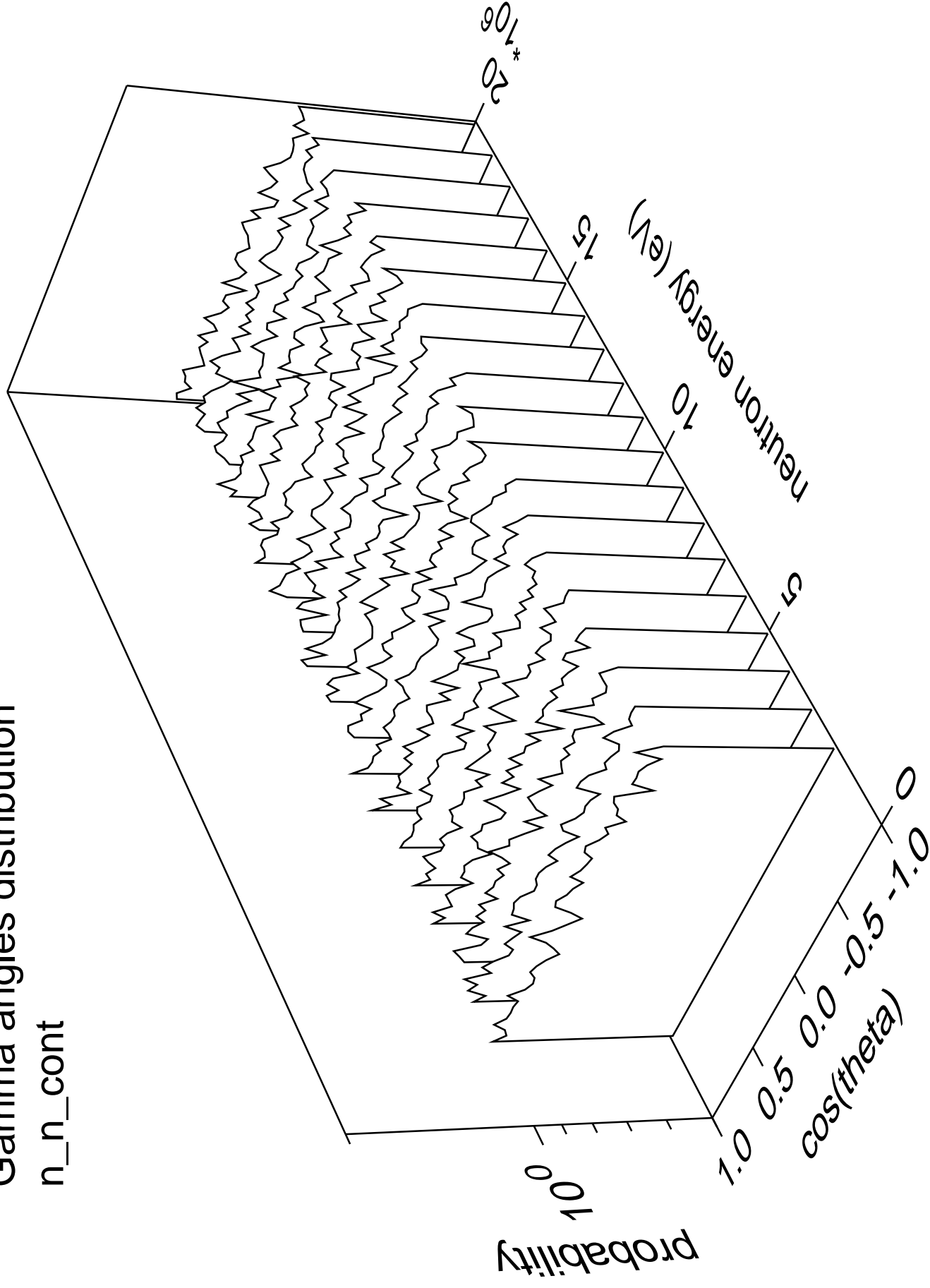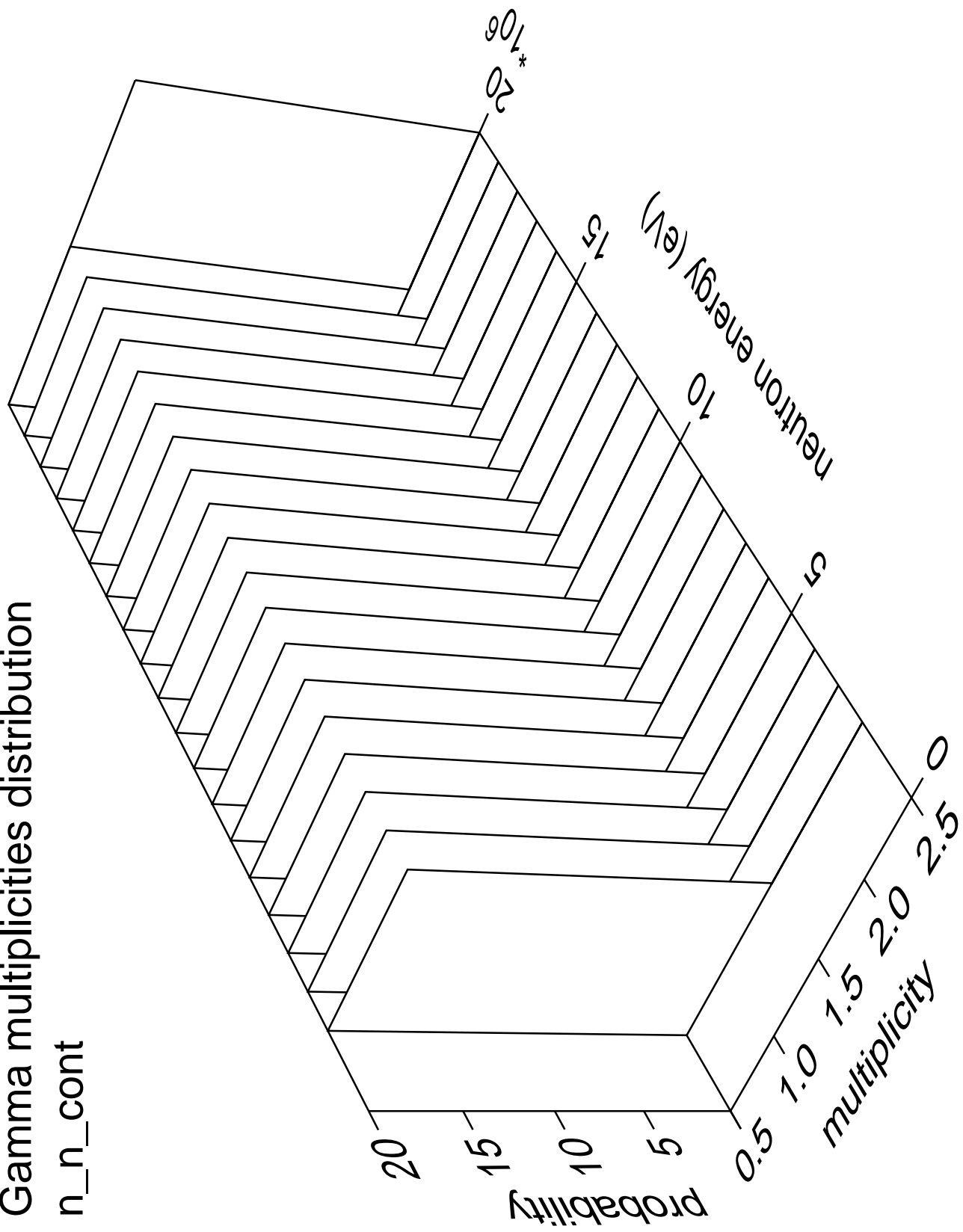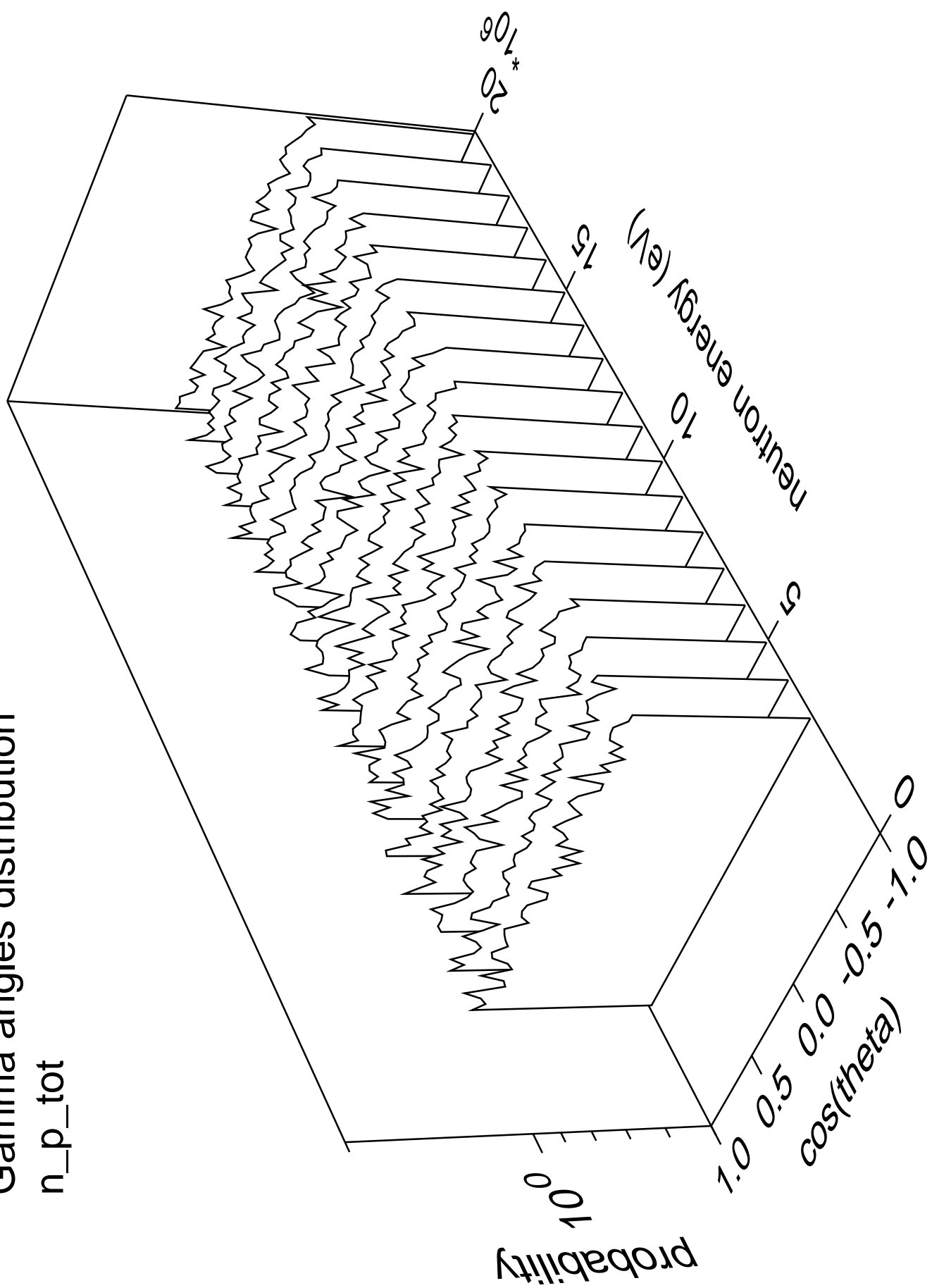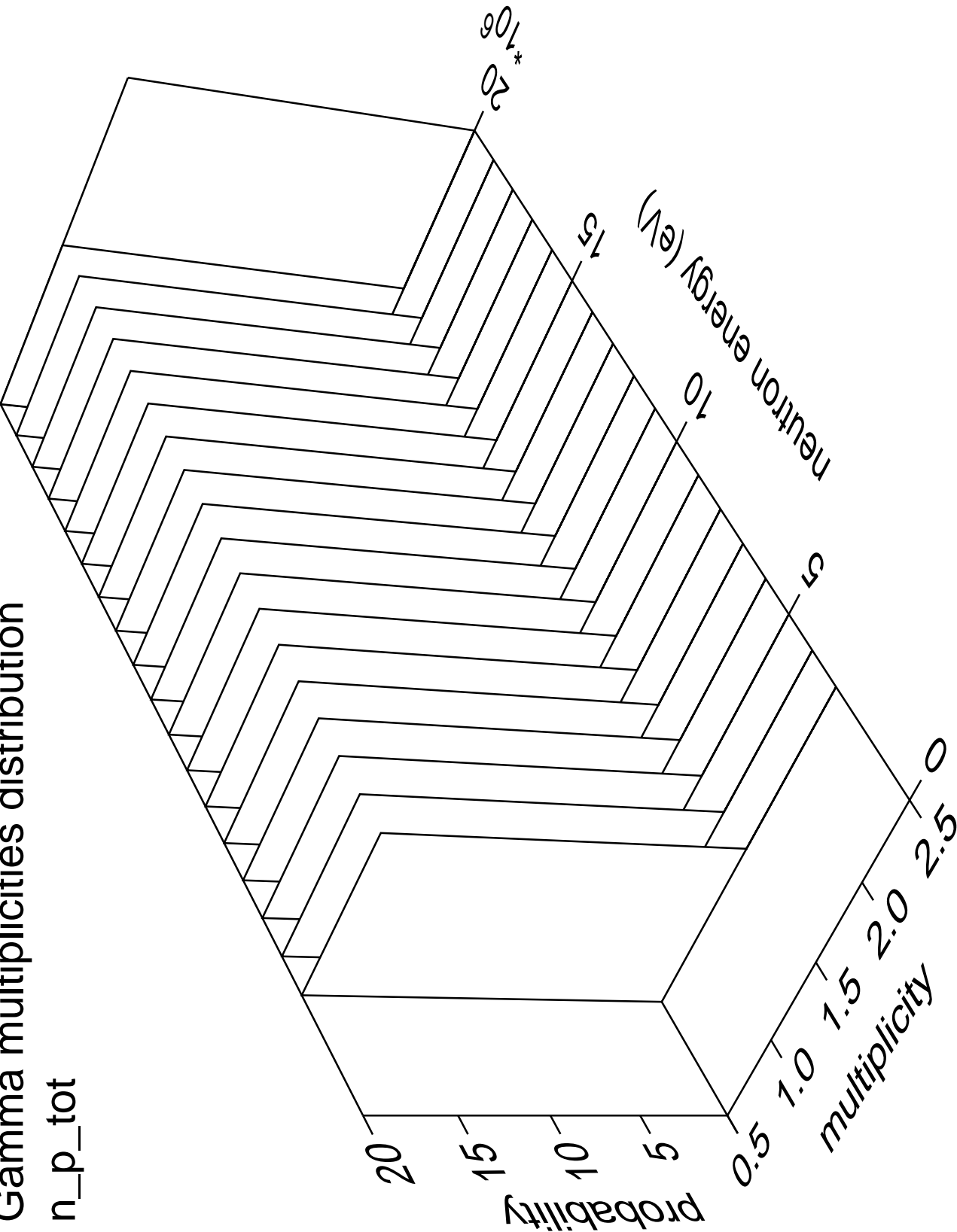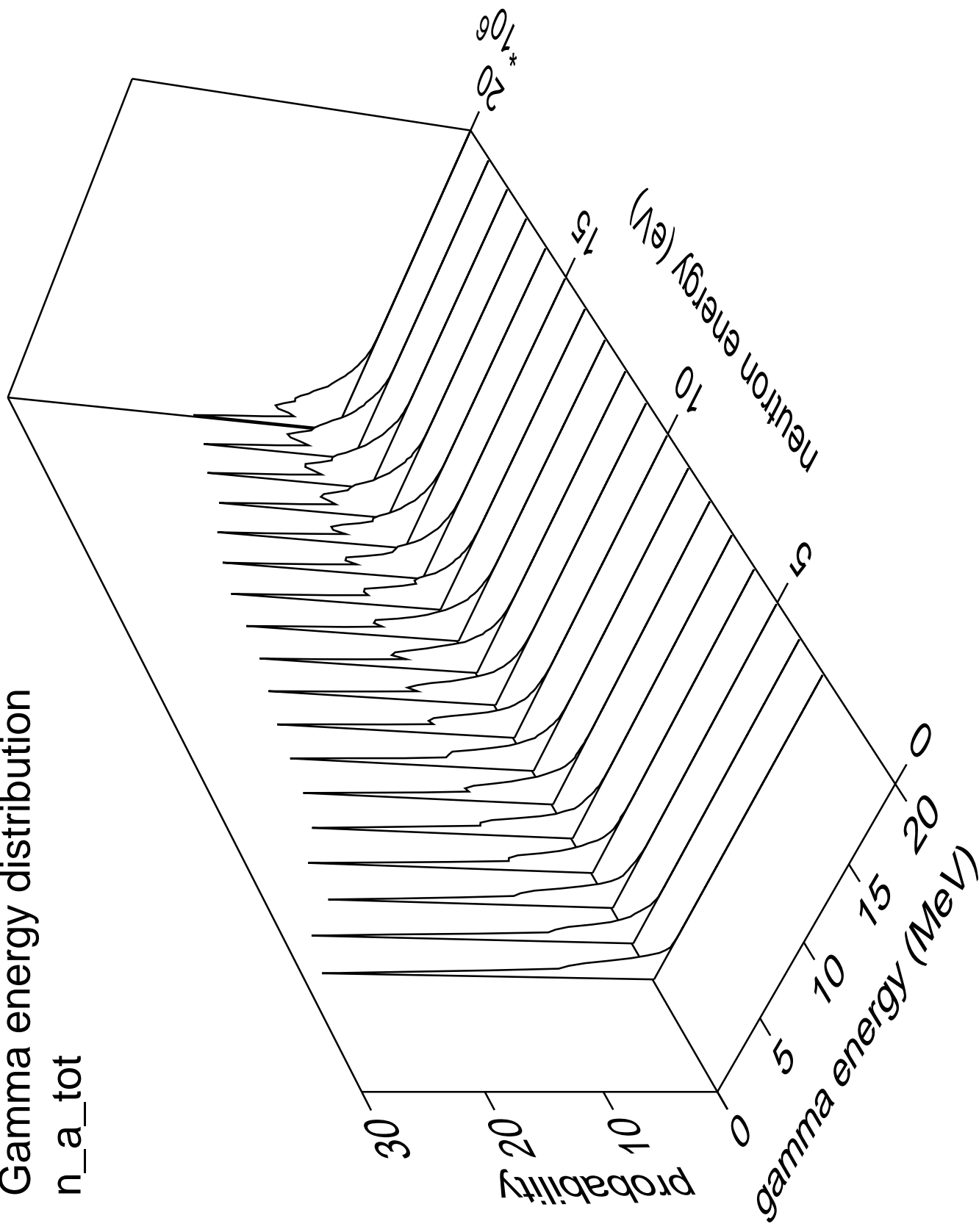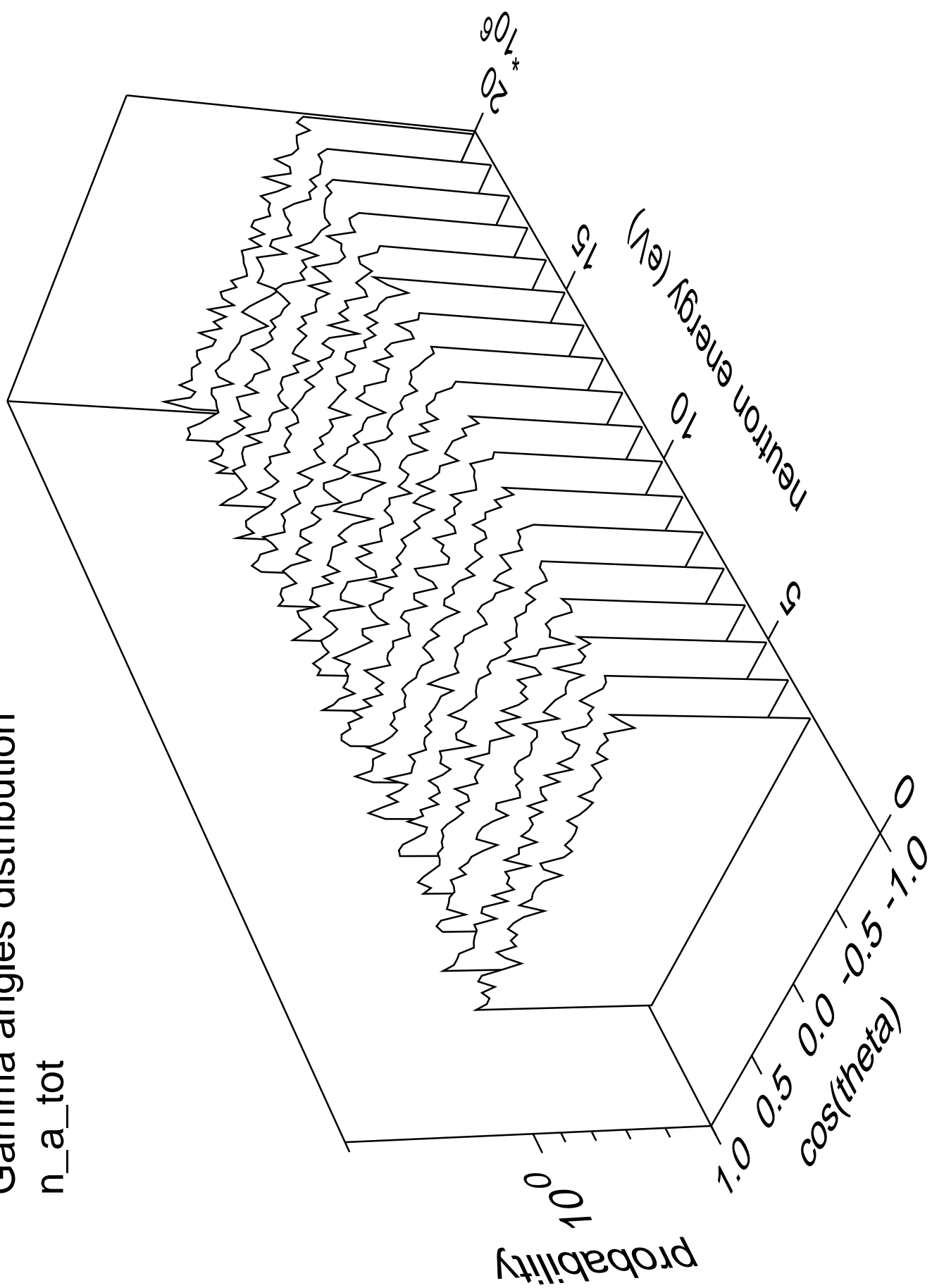
Gamma energy distribution
n_p_tot
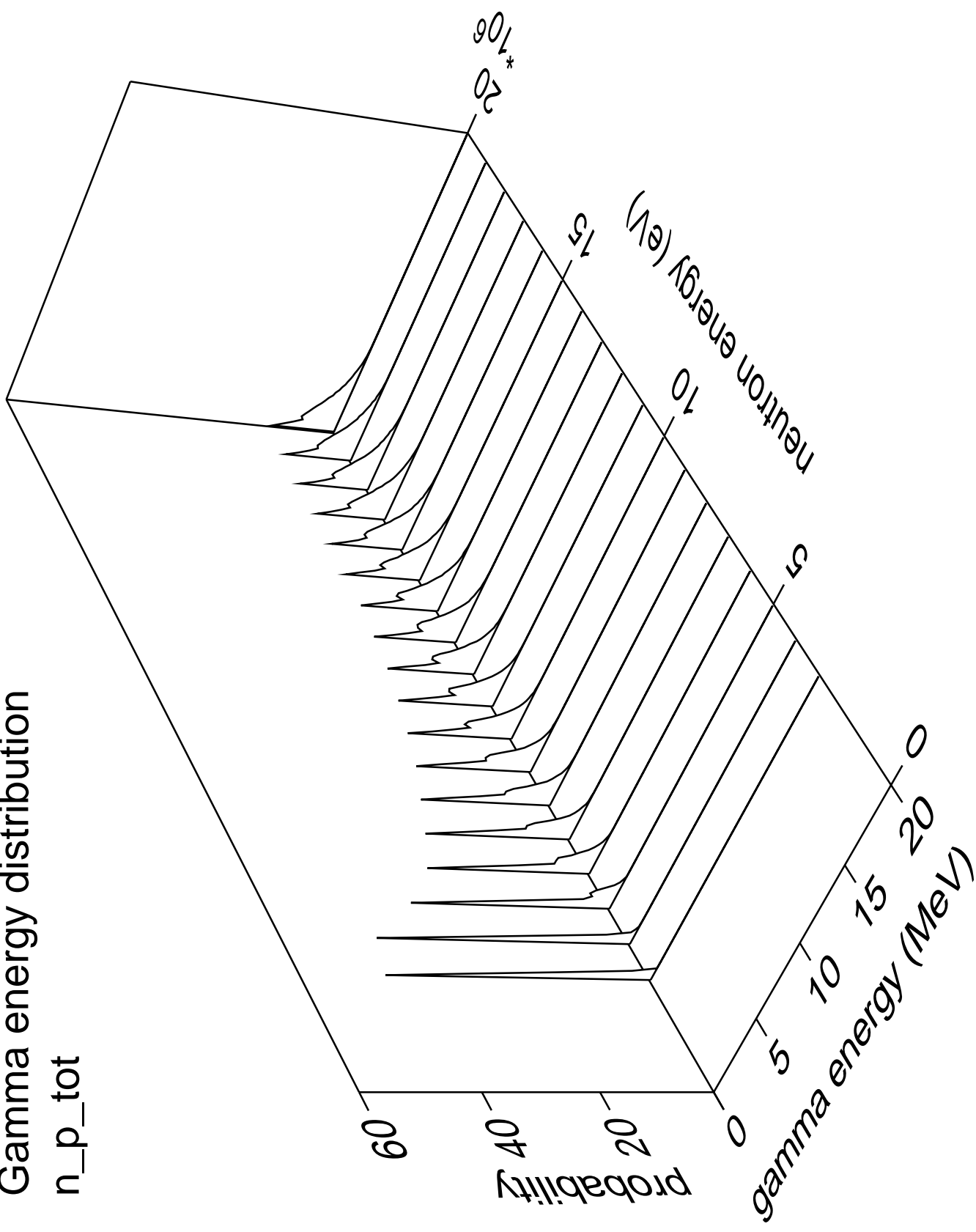
Gamma angles distribution
n_p_tot

Gamma multiplicities distribution n_p_tot

Gamma energy distribution
n_a_tot

probability

neutron energy (eV)

gamma energy (MeV)

20 *10^6

15

10

5

0

5   10   15   20

30

20

10

Gamma angles distribution
n_a_tot

probability

neutron energy (eV)

cos(theta)

Gamma multiplicities distribution
n_a_tot